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I

TWO YEARS' PROGRESS IN THE CHICAGO PUBLIC SCHOOLS

For three years past the eyes of the educational world have been upon Chicago. The second city in the Union, with nearly six thousand teachers and twenty-one members of the school board, with a public-school administration permeated by political pull and demoralized by diffusion of responsibility, has been making rapid strides toward twentieth-century ideals in school management. It is doubtful indeed if any city on the continent has made such marked progress in two years toward the realization of those aims that are regarded by advanced educators as essential to efficient school administration, and to the attainment of the highest standards in popular education.

This progress has been made without any change in the municipal machinery by which the schools are maintained. No change in the city charter was necessary to inaugurate the reforms by which the teaching corps was placed beyond the reach of the politicians and greater authority and responsibility centered in the superintendent of schools. If Chicago followed the trend of educational progress and desired to completely divorce its schools from politics it would fall in line with Indianapolis, in reducing the school-board membership to a compact, businesslike body, elected by the people instead of appointed by the Mayor, and responsible only to the electorate for the proper and intelligent discharge of the important duties intrusted to it.

The strides that have been made in the Chicago schools have been made in spite of this archaic system. Realizing the futility of attempting to change the system under which the school board was responsible only to the City Hall, Mr. Edwin G. Cooley, the present superintendent, who was elected in June, 1900, immediately set about, thru the exercise of that unusual tact and administrative diplomacy which originally suggested him for the place, bringing systematic order out of chaos and co-ordinating the entire system on a plan that recognized but one responsible executive head in the educational affairs of the schools and yet contemplated the assent of the board to every recommendation for appointment. It is not known whether Superintendent Cooley favors a large board or a small board of trustees, an elective or an appointive board. Seeing the failure of a rather formidable civic organization to impress the legislature with the necessity for changing the plan of administration, he did not stop to discuss this phase of the school question, but entered quickly and energetically upon the task of persuading the board to recognize the inefficiency of the old system and the necessity for relieving the superintendent of embarrassment in the selection and appointment of teachers thru the personal solicitation and influence of board members and politicians.

Strange to say, the new superintendent found the board more hospitable toward his ideas than he had reason to expect. Instead of twenty-one rebellious trustees, insistent upon the privileges which they had apparently acquired thru years of administration in which politics was allowed to dominate in school affairs, he found a board quite receptive and responsive, ready to acquiesce in every measure he advanced for the betterment of the school system.

How much of this disposition to yield to the recommendations of the superintendent was due to the pressure of the press and public sentiment, is not for me to decide. Suffice it to say the superintendent did not encounter as much opposition as he had been led to fear thru the experiences of his predecessors. Being an old schoolmaster as well as an administrative strategist, he had no rainbow theories about school boards. He knew that a board of twenty-one members, appointed by a

mayor largely to accommodate certain geographical, racial, and political considerations, could have no great veneration for educational theories, nor could it be expected to regard the superintendent as an infallible autocrat in school affairs. A board deriving its powers from the City Hall is naturally jealous of its prerogatives and its importance. It would not sit supinely by while a new superintendent of the vertebrate order quietly arrogated all its powers to himself. Mr. Cooley had no desire to usurp the administrative functions of the board. He was willing to divide responsibility with the board, but he took the sound and tenable position that the initiative in all matters pertaining to the purely educational affairs of the schools should rest with the superintendent. Any other position was fundamentally incompatible with efficient school management.

Like a tactful leader Mr. Cooley, therefore, began his remarkable campaign for reorganization in committee meetings. He took no fight into the open board until it had been won before the committee having the matter in charge. In this way he saved himself endless embarrassment, avoided the humiliations suffered by his predecessors, and deprived the reporters of the Chicago press of much material for imaginative story-writing. The contests in committee meetings have not been without warm discussion and spirited debate, but having won in committee meeting Mr. Cooley, like a sagacious school manager, made it his business quietly to assure favorable action on the committee's report. By adhering to this policy of personal contact with board members and dealing with them in perfect candor as man to man, Mr. Cooley has managed to enjoy the distinction of having won out on every proposition he has thus far submitted to the board.

The movement to relieve the superintendent from all improper influence in the selection of the teaching corps was begun in July, 1900, by the introduction of the "Dawes resolution," by Chester M. Dawes, which provided for the appointment of teachers on the basis of merit by the superintendent, without the intervention of board members or other persons. The measure was debated at much length, but it was vigorously

pressed by Mr. Dawes until, in an amended form, it was finally adopted in November, 1900.

Following this opening wedge came the reorganization of the board itself upon simpler lines, whereby fourteen committees were abolished and four committees appointed to take their place as follows: committee on school management, committee on buildings and grounds, committee on finance, and committee on compulsory education.

This was the most important and far-reaching reform of the year, in that it did away with the "district committees" to which had been delegated the work of recommending teachers for the various districts, and thru which a vast amount of political and social influence had been exerted. These district committees, in fact, had been the convenient and easy channels thru which political "pull" had crept into and finally ramified thruout the entire school system.

A subsequent action of the board of great significance and effect came when, on May 1, 1901, more than two months in advance of the regular time, Superintendent Cooley was elected for the ensuing school year of 1901-1902, the purpose being to further relieve the superintendent from many of the influences detrimental to the best interests of the schools in making his recommendations concerning elections of teachers and adoption of text-books.

In order to further relieve the superintendent of improper influence and to enable him to plan and execute, with a reasonable hope of being able to effect within his term of office such changes as seemed beneficial to the schools, a policy of reorganization of the schools, and to bring Chicago to the rank of other large cities in the country in the matters of educational policy, the term of the superintendent was made five years, and Superintendent Cooley was elected November 27, 1901, for the five years beginning January 1, 1902.

A number of changes have been made in the organization and the work of the normal school for the purpose of enlarging its usefulness, bringing it into closer relationship with the schools of the city, and securing better results in the training

of teachers to be employed in the schools. On June 27, 1900, Dr. Arnold Tompkins was elected principal of the normal school. On June 13, 1900, the board authorized the physical examination of candidates for entrance to the normal school, and appointed a board of physicians to conduct such examinations. Physical fitness has been required of all students entering the normal school subsequent to that time.

On October 3, 1901, the board directed that teachers in the normal school should be selected thru a careful and personal examination of candidates by the superintendent of schools and the principal of the normal school, and observation of the candidate at his work, together with such oral and written test as may be desired to ascertain the qualifications of the candidates.

Other important changes in the normal school recommended by the superintendent and adopted by the board were, the dismissal of normal-school students who were reported by the faculty as failures after one year's attendance, and the limiting of the number of students to be admitted to the normal school each year to 250, selected from those candidates attaining the highest averages in examination. An average of seventy-five per cent. in examinations and the passing of a physical examination were fixed as requirements for all candidates admitted to the normal school.

The superintendent was authorized to employ the heads of departments in the Chicago Normal School not to exceed two months of the school year in holding institutes, preparing outlines of work and circulars of information for the benefit and use of the teachers in the elementary schools, for the purpose of unifying and co-ordinating the work of the normal school and the elementary schools. The superintendent was also authorized to employ the teachers of music and drawing in co-operation with the heads of these respective departments in the normal school, subject to his general direction.

A further recommendation by the superintendent, providing for the addition of a third year to the course in the normal school, was adopted. The work of the additional year provides for the broadening and deepening of the work in the

academic branches and gives an opportunity to students to specialize in any of the various departments. The third year is optional with those entering before the passage of the measure, but obligatory upon those entering after its adoption. Of greatest interest to those concerned with movements affecting educational progress are the changes that have been inaugurated in the methods of selecting and promoting teachers and in ascertaining their fitness for the work.

On February 6, 1901, the board required of persons holding certificates to teach in the schools a substitute service of four months before being assigned as teachers. Under the same date there was introduced an inquiry from the superintendent concerning the interpretation of the rule affecting the validity of teachers' certificates. The question was before the board or its committees until April 3, 1901, when the rule was passed by the board invalidating certificates after a lapse of three years unless the holder had meantime been a regular teacher in Chicago schools or others of equal grade, or a regularly matriculated student in some reputable institution of higher learning.

The board also adopted the recommendation of the superintendent providing for the appointment of five experienced substitute teachers in each district, and the preparation of a list of eligible substitute teachers in accordance with their rank in examination, from which list vacancies in the district substitute positions should be filled in order of rank on the eligible list. This rule provided that if, after two months' service, a substitute teacher were reported unsatisfactory, she should be dismissed from the service, and if satisfactory, continued until the end of the year or until assigned regularly.

A recommendation limiting the number of assignments of cadets to positions to 250, and requiring them to be assigned in the order of their standing on the list, was adopted. A satisfactory service of two months is required before they can be assigned as teachers. If reported unsatisfactory after two months' trial, a like trial for two months will be given in some other school. If unsatisfactory in their service a second time, they shall be reported for dismissal. A satisfactory report by

a principal is taken to indicate a willingness on his part to have the cadet reported on assigned to his school.

On June 26, 1901, a resolution was adopted by the board authorizing the superintendent to notify principals, teachers, or cadets whose service is unsatisfactory in the schools that, if after four months' trial sufficient improvement is not made by them, they shall be dropped by the superintendent, which action should be final unless reversed by the Board of Education within one month of the time when the dismissal is reported by the superintendent. The subsequent election of principals, teachers, and cadets was made subject to the provisions of this recommendation.

On July 10, 1901, a change was made in the rule granting permanent certificates to teachers after three years of trial. Under the terms of the rule adopted temporary certificates issued to teachers and cadets passing examinations for elementary schools shall expire at the end of one year unless renewed by the superintendent. The superintendent is authorized to renew temporary certificates at the end of the second and third years if the experience of the holders warrants it and the candidates have met the requirements. Unless certificates are renewed the holders shall not be permitted to serve in the schools as teachers. More important than all these was the recommendation presented by the superintendent and adopted by the board, providing for a more consistent salary schedule based upon advancement made by principals and teachers along academic and professional lines as determined by annual examination. This rule provides for aiding elementary teachers to advance to the first group whose efficiency marks and years of service meet the requirements for admission to that group, by the organization of classes to be conducted by the principal and faculty of the normal school at times and places to be agreed upon.

A carefully drawn scheme for requirements for admission of candidates to examinations for the various kinds of certificates awarded by the Board of Education, and a statement of the subjects to be written upon by the candidates, were recommended by the superintendent as the standard requirements

for the examinations in future in the city, altho no examinations for most of the certificates are to be held this year. This report was adopted on May 28, 1902. The examinations during the past two years have been conducted by a board of examiners appointed by the superintendent under authority of the Board of Education. This examining board has a membership of twelve superintendents, principals, and teachers, who assist in holding examinations, marking papers, and assisting at a public revision which is offered to candidates who file written protest against marks made on their papers.

An event that provoked much discussion and controversy last year was the appropriation by the board of $100,000 for the purpose of providing text-books for the use of children whose parents were unable to pay for them. The German Catholic organizations of the city protested against the use of money to such an extent for the distribution of free text-books, and succeeded in securing from the court an injunction restraining the board from purchasing and distributing the books. The books ordered purchased and sent to the schools under previous direction of the board were recalled from the schools and held subject to requisition for fund books in the regular way. A modified order was subsequently entered permitting the board to purchase and loan books to pupils whose parents were unable to purchase them.

Mr. Cooley is a believer in and an advocate of free text-books, and it is probable that an effort will be made this winter to secure State legislation that will remove all question as to the right of the board to purchase and distribute free text-books.

In the work of simplifying the organization of the schools marked and gratifying progress has been made. The first move in this direction was the abolition of the position of assistant superintendent of high schools when the board failed to re-elect Dr. A. F. Nightingale to that position, the abolition of the positions of assistant supervisors of drawing and music, and the reduction of the district superintendents from fourteen to six. In response to an order of the board Superintendent Cooley presented the names of six district superintendents

and recommended that they be retained, a recommendation that was promptly approved by the board. They were: Edward C. Delano, Albert G. Lane, Charles D. Lowry, William C. Dodge, Ella C. Sullivan, and Alfred Kirk. In line with this policy of simplification the school management committee, on recommendation of the superintendent, reported last June in favor of the abolishment of the position of supervisor of modern languages, a position that had been created as a concession to the German-American patrons of the schools, but which has been rendered unnecessary by the adoption in January last of the departmental plan of teaching German. On this proposition the superintendent met with the first serious opposition he had encountered, the most of it arising from a misapprehension concerning his attitude toward the teaching of German in the schools, and concerning the real scope and intent of the recommendation. So great was the misapprehension and so unreasonable was the opposition that Mr. Cooley was finally induced to make a public statement of his position in the matter, which he did as follows:

> For many years the subject of German in the elementary schools has been a source of disturbance and a great expense. In 1893 the Board of Education gave up the teaching of German in the first four grades, but continued it in the fifth, sixth, seventh, and eighth grades. The arrangement was to employ special teachers of German, who gave their instruction in special rooms set apart for that purpose and were supervised and looked after almost completely by a supervisor of modern languages.
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> The results have been anything but satisfactory. The pupils who did the work in German in the four upper grammar grades have been unable, as a rule, to make anything like a satisfactory showing upon entering the high school. It is a matter of almost universal comment that the work has been unsatisfactory to all concerned, both on account of the money involved and the character of the work done.
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> The separation of the work in German from the other work in the grades has been a source of some friction between the principal and elementary teachers and the supervisor of modern languages. The principal of the school has, in many cases, felt that he was not in any way responsible for the character or the amount of the work done in the German classes. The teachers have usually been put in without any special reference to the wishes of the principal. The arrangement has not tended toward uniform methods of management and control of the work of the schools, and it was so unsatisfactory that the board recently decided to change its plan of handling instruction in German.

The board has now adopted what is called the "departmental method" of teaching the subject. German will be put upon the same footing as any other study in the four upper grammar grades in the elementary schools. It will have its due proportion of the time of the teacher, and the principal of the school will be held responsible for it the same as he is held responsible for any other work in the school. In every school there will be one or more teachers who have taken an examination in German, as well as in the other studies required of elementary teachers, who will teach not more than four classes per day in the German language. The remainder of the day they will spend in the care of their own rooms, teaching other subjects. It is not deemed wise to have teachers in the elementary schools absent from their rooms more than half the time. A sufficient number of teachers who can teach German will be employed to carry out this plan.

It is believed by those who are acquainted with our school system that under this arrangement almost the entire expense of about $100,000 for the special teaching of German will be avoided. It is also the belief of many of the supervising force, as well as of the superintendent, that the work in German will be done far better than it has ever been done before. The principal of the school will be compelled to see to it that this work is done in a satisfactory manner, or he will suffer in reputation. Every effort will be made by the superintendent to give to German the same kind and amount of support that is given to any other study. This is all that the friends of German can demand with any show of fairness.

It will be readily seen that under this arrangement there will be no special use in employing a supervisor of modern languages. His presence will only disturb the present plan. As long as such a supervisor is employed, whose office is supposed to be to take special care of, nurse, and look out for his special subject, it will be impossible to fix responsibility for satisfactory work in this subject upon the principal of the school. As long as such an arrangement continues German will continue to be a topic for discussion and the occasion of disturbance. The best interests of the schools generally, as well as German in particular, will be best conserved by placing instruction in German in the hands of the regular supervising force.

It should not be forgotten that under the present plan of using the heads of departments in the normal school, two months of the year will be spent by them in the actual visitation of the work of their special departments in the elementary schools. Miss Therese Torgatsch, recently elected to look after the German in the normal school, will be at our disposal and can give any assistance that will be necessary to the superintendent's office in looking after instruction in German.

Notwithstanding the misguided and misdirected opposition to the measure, and the pressure which it was reported had been brought to bear at the City Hall by politicians who imagined they were acting in the interest of German-Americans, the position of supervisor of modern languages was made va-

cant by a little parliamentary strategy which consisted in laying the whole matter of electing a successor to the present incumbent on the table, from which it can only be taken by a two-thirds vote.

The next serious contest, in which an effort was made to put the superintendent in an attitude of hostility toward kindergartens as an elemental part of the school system, occurred when the discontinuance of the eighty-nine public kindergartens at the close of the last school year was ordered by the board upon the recommendation of the committee on finance. Retrenchments had already been made in nearly all departments of the schools, notably in the high schools, to accommodate a deficiency in school revenues. The superintendent vigorously opposed any further crippling of the high schools in order to maintain the kindergartens, which, as a matter of fact, had never got beyond the experimental stage in Chicago, and which had been conducted largely as an independent enterprise without direct supervision, either by the board or district superintendents. As the discontinuance of the kindergarten was to be only temporary, Mr. Cooley took the position that when they were reopened they must be in the poorer districts of the city, that they must be co-ordinated with the school system, brought under direct supervision, and organized upon a basis of harmonious adjustment to the primary grades. In the meantime public meetings were held and great efforts were made to arouse public sentiment to "save the kindergartens." Mothers were appealed to and the newspapers were enlisted to some extent in the work of resisting the "assault upon the kindergartens." The position of the superintendent was misrepresented, and many persons gained the impression that he was an enemy of the free public kindergarten. As a matter of fact, he had in the previous January recommended the establishment of ten additional kindergartens and had located them in the poorer districts of the city, but the board had failed to provide the funds for opening them. The superintendent steadfastly stood his ground in spite of the efforts to put him in a false attitude, and his position was sustained by the board. By a subsequent decision of the courts by which certain

Chicago corporations were compelled to pay back taxes, adequate funds became available for this purpose, and the board, on July 9, appropriated $50,000 for kindergartens, and the recommendation of the superintendent was approved for the maintenance of seventy kindergartens in the schools where they were provided last year, and for the establishment of kindergartens in nineteen additional schools located in the poorer districts. The recommendation of the superintendent also provided for the maintenance of the kindergartens in both morning and afternoon sessions, thus doubling the number of children previously cared for in this department, and required that children between the ages of five and six be provided accommodations before those between four and five. A further recommendation provided that the salaries of kindergarten teachers be paid upon the basis of the schedule provided for teachers in other departments of elementary schools.

The events of the present school year up to this writing give gratifying indication of a disposition on the part of the board to support Superintendent Cooley in the continuance of the policy inaugurated by him two years ago. The most notable change that marked the opening of the new school year was the order by which the "district superintendents" became "assistant superintendents." While they are assigned to certain districts of the city they are subject to the direction of the superintendent and may be sent by him to any school or district to investigate and make report. The superintendent, in fact, has authority to send the entire force of assistants into one district. The importance and significance of this change will be readily appreciated by school men. As an incident in the program of unification of the entire system and greater centralization of authority and responsibility it is worthy of special note. This, together with further progress already made in the extension of the merit system in the appointment and promotion of teachers, augurs gratifying success for Mr. Cooley's third year in the Chicago schools.

When the position of Superintendent of the Chicago Schools was offered to Mr. Cooley, he said to the writer, "I will go in as an educator, and not as a politician." So far as the system

of administration now in force in Chicago would permit him he has consistently adhered to that determination. He assumed the position with well-defined purposes and plans for the complete re-organization and co-ordination of the entire school system. But of what use are the most exalted purposes and plans without the ability to carry them out? Mr. Cooley is a practical man. He is not a dreamer of educational dreams. He made up his mind that all antagonism between the board and the executive head of the school system must be removed. The board must be won over to the proposition that it would suffer no loss of prestige or dignity by permitting the superintendent to be the head of the school system, in fact as well as in theory. Mr. Cooley has succeeded in doing this to a far greater extent than it is possible to indicate within the narrow limitations of this article. To say that he may have attained these remarkable results in a little over two years by the practice of some of the arts of the skillful "politician" is merely to say that he sought to meet conditions as they were presented to him, that he chose to deal honorably and diplomatically with men rather than rebuff or repel them, to the end that he might lay foundations for a work that is certain in time to place the Chicago schools in the front rank of the educational forces of this country.

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II

A NEW METHOD OF ADMISSION TO COLLEGE

Again the agony of examination in various colleges of the land is over, and again the hopeful youth of oncoming classes are bending to their tasks with the desire and intention of winning their way and entering by the same gates thru which their predecessors passed. But inasmuch as the results of the 1902 examinations as reported by the public press and by numerous teachers of wide experience show a larger per cent. than usual of the unsatisfying, mystifying, and surprising, I am impelled to propound the query: Do we yet have the ideal method of admitting young men and women to the higher institutions of learning in our land?

Some of these institutions admit by the certificate system; and altho the champions of this method urge strenuously and even heatedly the peculiar advantages of their favorite plan, they fail to convince some colleges and many teachers that this is an ideal system, after all. As the arguments *pro* and *con* have often been discussed in school journals and associations, I shall not attempt to thresh old straw. But on the other hand the fact remains that the indorsers of the admission examination plan generally admit that their method is a necessary evil; their main contention is that the evil of admission by examination is smaller than that of admission by certificate. Concede that they are right, if you will: or maintain, if you please, that the reverse is the truth; is it not possible—yes, likely—that some other method may be devised in which the evils shall approach still nearer to the vanishing point?

A few of the recognized disadvantages of the present examination plan merit more than passing mention. During the past summer the country was regaled with columns of scandal affecting an ancient and honorable school, because of a wholesale attempt, on the part of a score or more of its pupils, at

" cribbing " an entrance into college. This was a juvenile and harebrained endeavor to avoid both Scylla and Charybdis; but the blind led the blind and all fell thru a manhole. It is evident, then, that admission examinations tempt to evil the dishonest and the weak, and are to that extent immoral. It is also probable that the unfit have at times succeeded in thus unfairly obtaining entrance, and in consequence the very object of the examination—the exclusion of the unfit—has been defeated.

But there is another evil which is greater than the last mentioned. It is a maxim of law that it were better that ninety and nine guilty men should escape than that one innocent man should suffer. It is also better that ninety and nine unfit men should secure admission—by accident—into our higher institutions, than that a single candidate capable of pursuing the courses of study offered should be, for any cause, rejected. The former happens often; sometimes, we are constrained to believe, by reason of disingenuousness on the part of the student, sometimes for other reasons to which I shall refer later; but no harm is done to any except to the student who cheats his way in. He gets a temporary idea that dishonesty is the best policy, and will very probably try it in succeeding years whenever he thinks it possible to win by it. But to the student fitted to proceed, who fails, the consequences are always distressing, and sometimes serious. Discouragement, shame, regret, despair, and even suicide have resulted. And failures by accident (if not to enter, at least to pass in some subject) occur every year. Who that has had considerable experience in preparing pupils for college, has not again and again been disappointed—both ways—in the results of admission examinations? Bright and conscientious pupils, who never shirk their work and who are confidently expected to win honors, come to an examination in a condition of extreme lassitude, or with a confusing headache, or in a time of excessive heat, or merely on an " off day," and get low marks or failures. Other pupils who are fond of taking chances, who are not brilliant and are not conscientious workers, have a run of luck and go in before their betters. All this is perfectly

natural. Similar results are happening in the secondary school thruout the year. The good scholar does not always get good marks, unless he is a prodigy, or the average scholar only average. It is not considered fair in school to mark a class even for a month, on a single test. There are psychological, and physiological, and analogical reasons why a single test should never be made conclusive. Even a gambler does not stake his fortune on a single hazard till his brain reels and he becomes reckless of consequences; and to compel a callow youth to stake his future on a single throw is both immoral and unscientific. It is only averages, and many of them—the "long run"—that show the real capacity of a growing boy or girl; and that is the strong card of the certificate system. I am not defending that system, however. I am merely showing the vices of the opposing method.

One or two incidents that have come to my knowledge in the past, that have happened in college examinations after admission, prove that a single test of one's acquisitions is likely to be misleading. In one case a boy of brilliant parts, but of shiftless habits, had taken an elective course in Italian. He chose this because he thought it would be easy—for he was a natural linguist and had a fair knowledge of Latin and French; and to render the course still easier, he cut most of the recitations. Finally examination day rolled around, and that must be met somehow. He boarded a street car for a long ride to college, and by a happy inspiration he put an Italian grammar into his pocket; he thought he would try the novel experiment of studying a little, with the forlorn hope that he might learn something that would be of practical service. Fortune favored him beyond his hopes. On the car he met the "dig" of the class, and under his direction, inspiration, and instruction, he mastered a difficult passage in a reading lesson. And it came to pass that on that lesson the examination was mainly set, and Signor Shirk passed, as well as Signor Dig. But did that accident affect the comparative knowledge of either?

Another incident: A few years since several boys in a class that I well knew had been preparing carefully, and even

anxiously, during many weeks, for a coming examination. One evening two other boys who had made no preparation whatever, and had had no previous thought of trying the examination, "stunted" each other to enter. They had from ten at night till six in the morning to prepare. One failed, as he ought—but one passed. Who supposes that the examination was a true test of the knowledge of the "successful" candidate?

This very year I know of a pupil who found that his German admission examination consisted largely of a poem which his teacher had happened to require him to commit to memory. He passed, naturally, and fairly, too. But were his competitors, who had not seen the poem, marked fairly under the circumstances?

It is demonstrated year after year, in summing up the results of admission examinations, that a run of luck, good or evil fortune, a surprising coincidence, or whatever we please to call it, plays no small part in deciding who shall pass and who shall fail to pass in any subject. It is at best but a game of cards: skill surely counts for much, but chance constantly intrudes its demoralizing presence. I hear of a teacher of note who last June sent nineteen boys to Harvard College to take the examination in advanced algebra. The highest mark which any boy received was "E." Yet that teacher firmly avers that every one could pursue the Harvard course of higher mathematics with profit. But "advanced algebra" is a wide field, and the examination was set on a part that no one had explored. A famous teacher in one of the suburbs of Boston writes: "The complaint is that the poorest and the best—*very best—that we ever had* get D's in the Harvard examinations this year." I noticed that same phenomenon in my own classes, but I find no fault with the examiners. I have no doubt that their markings were just. The fault, dear Brutus, is not in our stars, but in our system. We need another and a fairer test of merit.

Thus far destructive criticism.

But how shall we test for merit if not by examination? Candidly now, that question is not so rational as it seems.

Bring me a pudding and how shall I test it? Examine it? Superficially, perchance; but the old saw tells me where the real proof lies. Other old saws concerning cats that have been singed and glitters that are not golden warn me not to trust entirely to appearances. Do I select my friends by appearance and examination? I may be prejudiced or prepossessed in some sort at the outset, but I discover my true friends by trial. The business world has come to understand a principle that Sherlock Holmes would call "obvious," and when a man has a really good article to sell he pleads permission to send it to us on approval; or, as one humorous house puts it, "on suspicion." A story is told of a lady who purchased a pair of shoes; as she examined them they were evidently of good workmanship and in the height of fashion; but after a day of service they burst out near the sole. She took them back to the dealer, who exclaimed, "But you must have walked in them, ma'am! Those shoes never were made to walk in!" Likewise, by superficial evidences of fitness the unfitted creep in, here and there, into all our colleges; but a trial of their mettle finally ensues and they fall out by the way. Into one of the higher institutions of learning that I wot of, the admission is not difficult. Examinations are held, it is true, but few men are rejected. Yet a great number of the Freshmen never become Sophomores. For during the year the true test is applied—the only fair one—the test of their ability to keep up in the race. Take it in the world of affairs. Is it not ever thus? Does the publisher refuse to examine a manuscript before he sees the diploma of the writer, lest illiteracy contaminate him with leprous touch? Before a man shall sell groceries must he be examined to see whether he has found his true vocation, or is he allowed to be his own judge and to take his own risk? I have often been told by business men that ninety-five per cent. of all who enter the grocery business fail; yet even in these days of unions and of guilds no one has ever proposed an examination board which shall pass upon the ability of prospective grocers, lest some should enter the ranks and should not succeed.

If a man wishes to enter his horse for a race, I am told there

are but two conditions: proof that his horse is not in a faster class than that in which he is to compete, and an entrance fee. That is horse sense. Colleges do exactly the opposite. They demand no entrance fee, or deposit, as a guarantee of confidence on the part of the applicant; consequently they are compelled to reject all who seem likely to be in a slower class.

It is time to revise our educational methods along with our theology. Forty years ago good people talked much of getting into heaven, as if that were the acme of desire. They seemed to ignore the fact that a man of vicious nature, compelled to live among the pure in heart, would be in hell. Saner thinkers came to realize that "the way to heaven lies through heaven, and that all the way to heaven is heaven." Now college has been looked upon by many as a sort of intellectual heaven. If one gained entrance, no matter how, presto! he became a learned man. But those who have been there find there are fools even in that Paradise.

My plea for a new method of admission is this: Throw the doors as wide as if the college were a race-track. Make the curriculum a race for life, free-for-all, with but three conditions: a good moral character, seeming earnestness of purpose, and a reasonable deposit. The deposit would vary with varying conditions; for convenience let us call it $100 down. Should the applicant prove capable of continuing his course, let the deposit apply to his tuition. Should he fail to appear or prove incapable, let the money go into the college treasury to pay for the trouble of dealing with an incompetent and to fine him for his presumption.

What would be the result of such a course? The responsibility would rest upon the student from his start in the secondary school. That is where it belongs. Each pupil should be led to view his teacher as guide, friend, and helper, but to remember that success, both in school and college, lies in his own constant, daily, faithful endeavor—not in some sort of hocus-pocus by which he can cram for a crisis. Would any pupil well-fitted, self-reliant, honest, willing to work, ambitious in the highest sense, hesitate to risk $100 on his chances of keeping up in the race? I trow not. I have known many a

young man who would shrink from the ordeal of a single examination, who would enter joyfully upon a contest where fidelity, application, and " sand " were to be the tests by which his fitness should be proved. On the other hand the gilded, veneered, and crammed *chevaliers d'industrie,* who shine by reflected light or who are enabled, by the convenient endowment of a retentive memory, to become a storage battery of the power produced by others for a short but brilliant run, would foresee the difficulty of the endurance test and would fall back upon honest methods or give up the attempt.

Some years since I knew a young man who desired to enter college. I knew something of the high school which he had attended, and I felt sure he could not pass an admission examination. I went to the authorities of a certain college, however, and vouched for his success if he were admitted on probation. This college received applicants on certificate, but I could give no formal certificate, since I had given the young man no instruction. But in consideration of his character and staying qualities I urged his admission on general principles, and not on a technical qualification. They took a reasonable view of the matter and dared to try the experiment. The result was what might have been expected: he was faithful and successful thruout his course, popular with his classmates, and secured honors at his graduation.

But suppose a free-for-all admission system were adopted by any college and a horde of ill-educated but wealthy applicants should descend upon it; would it not be buried alive beneath the weight of its own prosperity? Again I trow not. There are various methods that I will but suggest that would prevent such a calamity. If an invasion of barbarians were actually feared, the fee might be $100 for the first hundred applicants, $150 for the second hundred, and so on; or a larger fee might be imposed at the beginning; or not more that five hundred students might be received into one class, even on probation. But I an not proposing matters of detail; I am merely advocating a general line of procedure.

Why should high walls be built around all our higher institutions of learning, as if the latter constituted a Forbidden

City? Why set guards about the Temple of Education, lest some enthusiastic disciples scale the wall—instead of taking the time to go around by the gate—and then steal the secrets belonging only to the initiated? Do the colleges screen Eleusinian mysteries from the gaze of the profane; or are they afraid to expose young men and women to higher learning unless they bear the vaccination scars of secondary education? Why exclude from trial any who earnestly and honestly wish to secure a higher education, provided they are willing to risk their money on their ability to succeed? And inasmuch as it is an undisputed fact that many teachers object to the certificate system because it throws upon them, as they think, too much responsibility; inasmuch as the examination system places all the responsibility upon the college, and the results have been proved fallible; inasmuch as both the prevailing methods have grave faults, why not shift the responsibility to the persons vitally concerned and let them prove whether they can stay in the race?

The proposition is a radical one, but that is not proof that it is impractical. A final objection may be raised, that some pupils would prefer examination admissions, and others would find difficulty in paying a large sum down. The first of these objections seems uncandid, and the second invalid; but admit them both for the sake of argument; many colleges already admit both by certificate and by examination—why not try admission on deposit for a probationary term as a third method, in order to test it practically?

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III

MATHEMATICAL PRODUCTIVITY IN THE UNITED STATES

Both on its own account and in its relation to the general question of research, this subject is naturally interesting to the specialists immediately concerned; and it seems a happy augury that not long ago several western college and university presidents, in convention, considered the problem how to secure that officers of instruction shall become, in addition, investigators and producers. A complete solution will be found when, and only when, the nature and importance of the problem shall be appreciated, not only by scientific specialists and university presidents, but by educators and the educated public in general, and this condition will be satisfied in proportion as the interdependence of all grades and varieties of educational and scientific activity shall come to be generally understood, and especially in proportion as we learn to value the things of mind, not merely for their utility, but for their spiritual worth, and to seek, as a community, in addition to comfort and happiness, the glory of the sublimer forms of knowledge and intellectual attainment.

Except when the contrary may be indicated or clearly implied, the discussion will confine itself to pure mathematics as distinguished from applied mathematics, such as mechanics and mathematical physics.

And first as to the significance of terms. According to the usage that has long prevailed among foreign mathematicians, and which, during the last quarter of a century, has come to prevail also in this country, the term mathematical productivity is restricted to discovery, successful research, extension in some sense of the boundaries of mathematical knowledge; and such productive activity includes and ranges thru the establishment of important new theorems, the critical grounding of classical doctrines, the discovery or invention of

new methods of attack, and, in its highest form, the opening and exploration of new domains.

Not only does the term productivity now signify here what it signifies abroad, but the prevailing standards in the United States agree with those of Europe. It is not meant that the best work in this country is yet equal to the *very* best of the European, or that the averages coincide, but that the Americans judge home and foreign products by the same canons of value, and that these are as rigorous as the French, German, or British rules of criticism.

Time was when productivity meant, in the United States, the writing and publishing of college text-books in algebra, geometry, trigonometry, analytical geometry and the calculus, not to mention arithmetic. That time has gone by. At present the term neither signifies such work nor, except in rare instances, includes it. With reverence for the olden time when the college professor, especially in comparison with the average of his successors of the present time, was apt to be a man of general attainments and diversified learning, it may be said that, judged by modern standards of specialized scholarship, the special attainments of American mathematicians previous to a generation ago, except in the case of a few illustrious men, were exceedingly meager—a fact which, as it could hardly have been suspected owing to their isolation by the mathematicians themselves, was even less known to their colleagues in other branches of learning or to the educated public in general. The writer of a college text-book in mathematics was naturally regarded as a great mathematician, despite the circumstance that, in general, the book contained the sum of the author's knowledge of the subject treated, much more than the average teacher's knowledge, and quite as much as the most capable youth was expected to master under the most favoring conditions. In general, neither author nor teacher nor pupil had knowledge of the fact that their most advanced instruction dealt only with the rudiments and often even with these in an obsolete or obsolescent manner; in general, there was no suspicion that, on the other side of the Atlantic, mathematics was a vast and growing science,

much less that it was developing so rapidly and in so manifold a manner that the greatest mathematical genius found it necessary to specialize, even in his own domain. As a natural consequence American mathematical instruction depended almost exclusively on the use of text-books. What was thus at first a necessity became a tradition, and, accordingly, in striking contrast with French and German practice in schools of corresponding grade, American college and undergraduate university instruction in mathematics, with some exceptions, of which Harvard is the most notable, continues still to make the text-book the basis of instruction, even where it is not regarded as a *sine qua non* of the classroom. One result of this practice and tradition is that the text-book, which early assumed in the public estimation what now seems to be an exaggerated importance, continues still to be often regarded as an indispensable instrument for the systematic impartation of knowledge.

The text-book method in undergraduate mathematical instruction undoubtedly has some peculiar merits and is recommended by considerations of weight. I am not about to advocate its abandonment. That question, moreover, is in a sense alien to the subject here under discussion. But I may say in passing that the notion, so firmly lodged in many of our colleges and still more firmly established in the mind of the general educated public, that the text-book is indispensable, is an erroneous one. That, as already said, has been amply proved both here and abroad, at Harvard, in some American normal schools, and in the schools of Germany and France, by the best, if not the only, method available for settling such questions, namely, by trial. And I could wish it were better known, particularly to teachers in secondary schools, that some of the ablest mathematicians and teachers of mathematics deprecate, not the use of the text-book, for that use has been sufficiently justified by the practice of most eminent and effective teachers, but our traditional dependence upon it, believing that this dependence often hampers the competent teacher's freedom and so prevents a full manifestation of the proper life of the subject. For the subject has indeed a deep

and serene and even a joyous life, and, contrary to popular feeling, it is capable of being so interpreted and administered as to have, not merely for the few, but for the many, for the majority indeed of those who find their way to college, not only the highest disciplinary value, which is generally conceded, but a wonderful quickening power and inspiration as well. And it may very well be that the very great, tho not generally suspected, human significance and cultural value of mathematics, the fact that not merely in its elements it is highly useful and applicable, but that thruout the entire immensity and wondrous complex of its development it is informed with beauty, being sustained indeed by artistic interest,—it may indeed be that all this will in some larger measure come to be felt and understood when teaching shall depend less on the text-book, at best a relatively dead thing, tending to bear the spirit of instruction down, and shall instead be more by living men, speaking immediately to living men, out of masterful knowledge of their science and with a clear perception of its spiritual significance and worth.

To return from this digression, it is fully recognized by all that, as undergraduate mathematical instruction is now carried on in our country, the text-book writer is a pretty valuable citizen, nor is there any disposition to detract from the dignity of his activity. Indeed, tho some of the older books compare favorably in important respects with the best of the new, it may be said that, in general, to write a highly acceptable mathematical book for college use requires to-day an order of attainment far superior to that which was sufficient even a score or two of years ago. The training and scholarship which such work presupposes are, in respect to amount and more especially in respect to quality, not only relatively great, but very considerable absolutely. The author of the kind of book in question—and happily there is no lack of competition in this field of writing—may be certain of intelligent, if not always generous, appreciation; he may be able thereby to lengthen his purse, his book stands some chance of being briefly noticed in reputable journals, and he may even gain local fame, but, however excellent the quality of his workman-

ship, it will seldom secure him a place in the ranks of the investigator or producer. The service of the text-book writer has not been degraded. It receives a more discriminating appreciation than ever before. It is merely that this kind of work has received a more critical appraisement. Not a few mathematicians decline to undertake the work of text-book writing, for the reason that they do not wish to be classed as text-book authors. If one who has published several original papers yields to the temptation to write a book for college use, the chances are his reputation will suffer loss rather than gain. Possibly such ought not to be the case, but nevertheless it is the case.

In regard to mathematical productivity proper, it is probably true that during the last twenty-five years, especially during the latter half of this period, there has been greater improvement in research work and output in this country than elsewhere in the world. Such sweeping statements are of course hazardous, and I make this one subject to correction. At all events, the gain in question has been great and is full of promise. Just about twenty-five years ago the *American Journal of mathematics* was founded at the Johns Hopkins University, where it is still published as a quarterly. Previous to that time two or three attempts had been made to publish journals of mathematics in this country, but they met with little success, and are now scarcely remembered. The *American Journal of mathematics,* in the beginning, sought contributions from abroad, and reference to the early volumes will show that these are to a considerable extent occupied by foreign products. A second journal, the *Annals of mathematics,* was founded in 1884, and published at the University of Virginia. This journal, a quarterly, still flourishes, being now published at Cambridge, Mass., under the auspices of Harvard University. In 1888 was founded the New York Mathematical Club, which soon became the New York Mathematical Society and began the publication of a monthly *Bulletin.* In 1894 this society became the American Mathematical Society, which now has a membership of nearly four hundred, including, with few exceptions, every American

mathematician of standing, besides some members from Canada, England, and the Continent. This society has a rapidly growing library, and publishes two journals, the *Bulletin,* already mentioned, and the *Transactions,* a quarterly journal, recently founded, and devoted to the publication of the more important results of research. The four journals named are, all of them, of good standing and exchange with some of the best British and Continental journals. Not by any means all the members of the society are producing mathematicians, but a large percentage of them are sufficiently interested to attend one or more meetings of the society each year. These meetings are bi-monthly meetings, held in New York, and a summer meeting at a place chosen from year to year. To meet growing demands, a Chicago section has been organized, which holds regular meetings in that city, and a second section on the Pacific Coast, whose business will be conducted perhaps at San Francisco. These sections report to the society proper, which has its offices in New York City.

At these meetings there are presented annually several scores of papers, a percentage of which deal with applied mathematics. Of course not all of these papers are important, but some of them possess very considerable, a few of them distinctly great, value, and a large majority of them fall properly within the category of original investigation as defined. In addition to such more regular contributions, a considerable number of mathematical papers are annually presented before other American scientific organizations, as, for example, before Section A of the American Association for the Advancement of Science. The majority of all these articles are found to be available for publication, and the result is that, altho foreign contributions are no longer invited as formerly, and few of them received, the four journals above mentioned are, nevertheless, taxed beyond their capacity; and, for want of room, papers are sometimes rejected by the American journals which, if produced abroad, would probably be published there, where the facilities for publication are ampler. In fact, the number of American memoirs published

abroad exceeds perhaps the number of foreign contributions published here.

It is greatly to be regretted that our facilities for publication, tho recently so greatly enhanced, are still distinctly inadequate. For mathematicians are also men, and, as such, one of their most powerful incentives to research is the prospect of the recognition that comes from having the results of their labors properly placed before the scientific world.

While the picture thus drawn of American mathematical activity is a pleasing one and is full of encouragement and hope, still we must not disguise from ourselves the fact that, in view of the vast extent and resources of our country and of the large number of professional mathematicians connected with our numerous colleges and universities, the amount and the average quality of the American mathematical output are not only distinctly inferior to that of the more scientific countries of Europe, for which, not without some justice and plausibility, we are wont to plead our youth in defense and explanation, but this average and amount are by no means a measure of our native ability nor in keeping with our achievements in some other scarcely worthier, if less ethereal, domains.

The reasons for this state of case are not far to seek, and come readily to light on a minuter study of the necessary and sufficient conditions for the vigorous prosecution of mathematical research.

We may recall the philosopher's insight that "there is but one poet and that is Deity." The poet is indeed born, we all agree; and it is equally, if not so obviously, true that the great mathematician or financier or administrator is born. But the mathematician is not born trained or born with knowledge of the state of the science, and hence it goes without saying that to native ability, which we presuppose thruout as absolutely essential and which is not so rare as is often thought, training must be superadded, years of austere training under, or still better, in co-operation with, competent masters in a suitable atmosphere. Formerly, it was in general necessary to seek such training abroad; that is no longer the case, now that

our better universities are manned with scholars of the best American and European training. Indeed the mathematical doctorate of a few of our own institutions now represents quite as much as, if not more than, the average German doctorate, tho less, we must still confess, than the French, which probably has the highest significance of any in the world. Several of the most highly productive mathematicians in the country have not received foreign training, while a still larger number of non-producers studied abroad for years—a fact showing that such training is neither a necessary nor a sufficient condition. It is not intended to depreciate the absolute value of foreign training, but only its relative value—its value as compared with that of the best which our own country now affords. It is still desirable, when not too inconvenient, to spend a year in the atmosphere of foreign universities, and many avail themselves of the opportunity, largely for the sake of the prestige which, owing partly to a tradition, it still affords in many American communities. It is, of course, a mere truism to say that training, tho necessary, is not sufficient. Unless there be the gift of originality, training can at best result in receptive and critical scholarship, but not in productive power.

There is in our country a goodly number of men having the requisite ability and training, who, nevertheless, produce but little or nothing at all—a fact to be accounted for by the absence in their case of other essential conditions.

In some cases library facilities are lacking. Mathematical science is a growth. The new rises out of the old, whence the necessity that the investigator have at hand the major part at least of the literature of his subject from the earliest times. Even more exacting, if possible, is the necessity of having ready access to the leading journals of England, Germany, France, and Italy, besides those of America. One takes special pleasure in mentioning Italy, because she has been recently making rapid advances and in two important directions, the geometry of hyperspace and mathematical logic, the ontology of pure thought, she comes well-nigh leading the van. Of journals there are at least a dozen which are abso-

lutely indispensable to the research worker and as many more that are highly desirable. In addition, the producing mathematician will not infrequently have occasion to refer to memoirs which, because of their length or for other reasons, have not appeared in the journals, and are to be found only in the proceedings of the leading general scientific and philosophical societies of Europe. The lack of such facilities, which in some cases a few hundred and in other a few thousand dollars would suffice to make good, is in itself sufficient to explain the non-productivity of not a few American mathematicians.

Again, there are cases where able men have not the necessary leisure to engage successfully in investigation. Our universities are for the most part so organized that the energies of scientific men are largely expended in undergraduate teaching and in administrative work. We, as a people, have yet to learn that the value of a professor to a community can be rightly estimated, not by counting the number of hours he actually stands before his classes, but rather, if we must count at all, by reckoning the number of hours devoted to the preparation of his lectures, and more particularly by the fruit of quiet study and research. In Germany the ordinary professor lectures from four to six hours a week, to which if we add in some cases two hours *Seminarübungen,* we have a total of six to eight hours of presence in the lecture room. In France the professor is expected to give one course of lectures. These take place twice a week and last from one to one and a half hours. To this duty should be added that of holding a large number of examinations—a rather wearisome service from which the German escapes. When we contrast this with the ten to fifteen and often even twenty or more hours of actual teaching demanded of the American professor, to say nothing of faculty meetings, committee meetings, and the multitudinous examinations, and when we do not fail to reflect that ten hours are much more than twice five in their tax upon energy, it is little wonder that in productivity our most brilliant men are often so greatly outclassed by their foreign competitors. Moreover, "our universities are at present, for the first two

years, gymnasia and lycées, and our professors are accordingly obliged to devote themselves largely to what is properly secondary instruction"—a kind of work which, however worthy, important, and necessary, has the effect, not merely of drawing off the energy in non-productive channels, but also eventually of forming and hardening the mind about a relatively small group of simpler ideas.

Again, scientific activity is not infrequently rendered impossible by the amount of administrative work which professors of notable administrative ability are called upon to perform. Indeed "the problem presses for solution, how to retain the many peculiar excellences of our college and university life and at the same time to create for certain men of talent and training a suitable environment for the highest scientific activity."

Once more, it is very desirable, indeed it is really necessary, for men working in a branch of science to attend the meetings of scientific bodies, in order to meet their fellow-men, to take counsel of them, to create and share in a wholesome *esprit de corps,* to catch the inspiration and enthusiasm, and to gain the sustaining impulses which can come only from personal contact and co-operation. But our country is so vast, the distances so long, and traveling so expensive, that many mathematicians, owing to smallness of income, find themselves hopelessly condemned to a life of isolation, of which the result is a loss first of interest and then of power. It is in vain that one counsels such men to wake up and be strong and active, for their state of inactivity is less a defect of will than an effect of circumstances.

There is a second phase of this question of remuneration which is, happily, beginning to attract attention and to receive consideration in university circles. I refer to the proposition that a wise economy will provide, for university service, remuneration, not such as would attract men whose first ambition is to acquire the ease that wealth is supposed to afford, but such as will not, by its inadequacy to the reasonable demands of modern social life, deter men of ability and predilection for scientific pursuits from entering upon them. I know

personally of six young men, not all of them mathematicians, who have sufficiently demonstrated that they possess such ability and predilection, five of whom have recently relinquished the pursuit of science and the fifth of whom told me only yesterday that he seriously contemplates doing so, all of them, for the reason that, as they allege, the university career furnishes either not at all, or too tardily, a financial competence and consequent relief from practical condemnation to celibacy. It matters little whether they be mistaken to a degree or not, so long as the contrary conviction determines choice. There is, indeed, more than a bare suspicion that for reasons akin to those actuating in the cases cited, the university career, particularly in case of the more abstract sciences, such as pure mathematics, whose doctrines have little or no market value, fails to attract a due proportion of the best intellects of the country. For it should be understood that successful investigation in such sciences demands men of intellectual resource, of power, of persistence, in a word, men of strenuosity of life and character. Such men are indeed the intellectual peers of the great financier, or soldier, or statesman, or administrator, and they are aware of it; so that if too many such men are not to be drawn away from scientific fields by the prospect of achieving elsewhere not only fame but fortune also, it stands to reason that the university career must promise at least a competence and the peace of mind it brings. That such is the case, and that the future will condemn the present for a too tardy recognition of the fact, is a matter which can hardly admit of doubt.

That the conditions above indicated are those which determine the matter of mathematical productivity is a proposition which not only commends itself *a priori* to the reason, but is justified also *a posteriori* by experience, for statistics show that those institutions, both foreign and domestic, where such productivity has flourished best are also those where the conditions named are most fully satisfied, and that where one, at least, of the conditions is not fulfilled, there investigation proceeds but feebly or is wholly wanting.

It remains to mention another condition which in a

sense includes all others, and whose fulfillment will come gradually as at once the cause and the effect of the fulfillment of all others. I mean, of course, a public sentiment which will demand, because it has learned to appreciate, knowledge, not merely because of its applications and utility, but for its beauty, as one appreciates the moon and the stars without regard to their aid in navigation—a public sentiment that shall seek every provision and regard as sacred every instrumentality for the advancement and ministration of knowledge, not only as a means to happiness, but as a glory, for its own sake, as a self-justifying realization of the distinctive ambition of man, to understand the universe in which he lives and the wondrous possibilities of the Reason unto which it constantly makes appeal.

C. J. KEYSER

COLUMBIA UNIVERSITY

IV

OXFORD, PAST AND PRESENT

The University of Oxford differs from most of our American universities in that, so far as is known, it had no founder. Further, altho there are a number of legends which seek to account for its existence, there is no satisfactory, indisputable account of the manner of its foundation. There is first the legend which tells of how King Mempric, a contemporary of King David, and certain Greek professors, who came to England with Brute the Trojan after the fall of Troy, founded a university at Greeklade or Cricklade in Wiltshire, and subsequently removed it to Oxford. And there is the other legend, which has been very dear to some, which ascribes the foundation to Alfred the Great. There is also the story,—part *Wahrheit* and part *Dichtung*,—which gathers about St. Frideswide, the consecrated daughter of the Viceroy Didanus, who about 721 established a home for religious maidens in Oxford. It was she who, being sought in marriage by King Algar, the wicked king of Leicester, hid from him among the swine. It was in answer to her prayer that the King and his messengers were struck with blindness. And it was she who for Algar's sake cursed all kings who should enter Oxford, so that for centuries the English kings feared to come within the walls of Frideswide the maiden. Strangely enough those who, like Harold Harefoot and Henry III., did attempt it, did so not without accompanying misfortune. And of all the kings of England the most unfortunate was Charles I.—he whose history is most closely identified with Oxford.

The story of St. Frideswide is in part at least pretty well attested. And scholars who rejected the Mempric myth, the Brute myth, and the Alfred myth long found in this legend the origin of the University. For it was natural that men zealous for religion and learning should settle in the neighbor-

hood of a well-known religious foundation, and thus, it was believed, the University was gradually evolved. Latterly, however, there has been a disposition to ascribe to it a rather more definite beginning. It will be remembered that Louis VII. of France did not conduct himself in the second crusade in such a manner as to make his friends particularly proud of him. As a result his high-spirited wife, Eleanor of Aquitaine, would have very little to do with him. A divorce soon followed, and the lady chose as her second husband Henry II. of England, thus transferring her immense dowry of Aquitaine to the English crown. It would appear that she did not herself think that she came as a great blessing to the country of her adoption, for she had a fashion of signing herself, "Eleanor, by the wrath of God, Queen of England." The consequences of the marriage were certainly momentous. One of the more remote consequences (of this and of some other things) was the Hundred Years' War. One of the more immediate consequences (of this and of some other things) was the University of Oxford. For in the quarrel which arose between Henry II. and Thomas à Becket, the French king, always ready to do the husband of his former wife a disservice, took the Archbishop's part. As the English ecclesiastics for the most part sided with their sovereign, they were included in his displeasure. Now the University of Paris was at that time the ordinary place for the education of English churchmen. Accordingly in 1167 we find Roger of Salisbury regretting that "France, the mildest and most civil of nations, has expelled her alien scholars." And we also find among a series of ordinances issued by the English king at about the same time against the partisans of Becket, one ordering all clerks who had revenues in England to return home within three months "as they loved their revenues." It seems probable that the English scholars, thus under a double necessity of leaving Paris, decided to settle in Oxford, already a home of religion and learning, and to reproduce there, so far as might be, the life of Paris.

The University, thus founded, grew with wonderful rapidity. Tradition has it that at one time during the reign of

Henry III. the student body numbered no less than thirty thousand. This is doubtless an exaggeration, yet it is not improbable that in the days when there were no books, when the only way to acquire knowledge was to gather in the places where the precious manuscripts were to be found, or to hang upon the lips of the living teacher, there were more students at Oxford than at present.

It was the necessity of maintaining discipline that led to the establishment of the colleges. The University, as it now exists, is a federation of twenty-two colleges. And in the history of these colleges it is possible to trace the whole history of England. For there is nothing that Englishmen have done, thought, or felt, that has not left its impress upon one or more of the colleges of Oxford.

A few examples will suffice. Altho it is now generally admitted that University College is a thirteenth-century foundation, the legend which connects its origin with Alfred the Great has become, by a decision of the Court of King's Bench in 1726, part of the law of England. In the daily thanksgiving for benefactors which goes up in the college chapel King Alfred has his place. And in June, 1872, the members of this college celebrated their alleged millenary.

Balliol recalls the hero-age of Scotland. It was founded sometime between 1260 and 1266 by John Balliol, father of the John de Balliol who became king of Scotland. He had been sentenced to be scourged at the doors of Durham Cathedral, but he escaped his punishment by founding this college for poor scholars of Durham. Thru its great master, John Wyclif, Balliol was closely connected with the first powerful religious agitation that swept over England. By its late master, Benjamin Jowett, it was made pre-eminently the scholars' college. It held the first rank among Oxford colleges, not only as a place of education, but also as the home of a brilliant coterie of learned and thoughtful men. Its scholars and fellows were selected not only with reference to their ability to pass examinations, but also with reference to their social qualities and intellectual development. For to Jowett a university was a place where great souls might find

fellowship with each other and with the mighty dead, rather than a place for studying Greek particles. Thus Arnold Toynbee, whose delicate health forbade his even attempting the examinations, was one of the most valued members of Balliol.

Around a personality so marked as that of Jowett all kinds of good stories gathered. There is one of a clever, superficial fellow who, having been given to understand that the Master's religious views were somewhat heretical, thought to gain favor with him by pretending that he too was a heretic. One day when they were walking together he said to him, "Master, I have read such and such books, and I see no reason for believing in the existence of a God." The Master stopped short in the walk as he replied, "Young man, you find a God before five o'clock this afternoon, or go down" (the technical expression for leaving Oxford).

Another story tells of how two rather wild sons of Balliol had a desire to spend their holidays at the college. To do this it was necessary to secure the Master's permission. He was loath to grant it, and yet did not wish altogether to refuse it. So he replied that they might stay, but upon conditions, the first condition being that they come to prayers every morning. To this they consented. Somewhat disappointed, he proposed a second condition, that they dine in the college hall every evening. They decided to go down. The Master heard their decision with a sigh of relief. "I thought so," he said; "'this kind goeth not out save by prayer and fasting.'"

Like their American brothers, English students are sometimes given to making rhymes upon their college dignitaries. The Jowett rhyme is as follows:

> "Here am I, my name is Jowett;
> What there is to know, I know it.
> I am the Master of this college,
> And what I don't know isn't knowledge."

Three colleges—Queen's, New, and All Souls—stand as special reminders of the Hundred Years' War. Queen's was founded in 1340 by Robert de Eglesfeld (chaplain to Queen

Philippa, Edward III.'s queen) and was named Queen's College or "Hall of Queen's Scholars," in honor of the good queen whose prayers saved the lives of the citizens of Calais. But it is not Queen Philippa whose statue stands in the cupola under which visitors pass in entering Queen's. The beautiful Gothic front of the old college was not pleasing to eighteenth-century taste, so it was torn down, and in its place the present front, which is not at all beautiful, was built, and in its cupola was placed a statue of the then reigning queen. For it is surely correct to speak of Caroline of Anspach, the wife of George II., as a reigning queen, tho she was but a queen consort. Thus Queen's College stands to-day a monument to her whom tradition calls the best, and to her who certainly was the ablest of all the queen consorts of England.

There was a little room over the original entrance gate of Queen's which the eighteenth-century vandals destroyed. That little room was at one time occupied by Queen Philippa's son, the Black Prince, and later by the prince who was afterward Henry V. It is said that there was in the room a portrait of the latter prince, with the following inscription upon it:

> "In perpetuam Rei memoriam,
> Imperator Britanniæ,
> Triumphator Galliæ,
> Hostium Victor et sui,
> Henricus V.,
> Parvi hujus cubiculi,
> Olim Magnus Incola."

There is a famous game which the dignitaries of Queen's have played every Christmas Day now for more than five hundred years. At five o'clock in the afternoon the Tabardar blows the trumpet which has called the men of Queen's together ever since the founder's time. In the presence of a great assembled multitude, a man bears a boar's head adorned with bay and rosemary and wearing a crown of gold thru the Hall. He is followed by the choir boys singing:

> "The boar's head in hand bear I,
> Bedeck'd with bays and rosemary;
> And I pray you, masters, merry be,

Quotquot estis in convivio,
Caput apri defero,
Reddens laudes Domino."

Tradition says that this ceremony is in commemoration of an act of valor performed by a student of the college who, on Christmas Day, 1376, while walking in Shotover Forest and reading Aristotle, was suddenly attacked by a wild boar. The beast came at him open-mouthed, but he, with great presence of mind, crying "*Græcum est,*" rammed the volume down his throat, thus fairly choking him. But the custom probably strikes its roots further back than the Queen's College hero, in the times when Frey the sun-god ruled over Norway and Sweden—Frey to whom the dwarfs of fairyland gave the golden-bristled boar as a tooth-gift. When the world was a few centuries younger than it is now men liked to play games which we, in our grown-up wisdom, would think very childish to begin playing, but which we are glad to go on playing because they began to play them.

It was in 1379, "in a time of shame and suffering such as England had never before known," when "her conquests were lost, her shores insulted, her commerce swept away from the seas, while within she was exhausted by the long and costly war as well as by the ravages of pestilence," when "literature had reached its lowest ebb," that William of Wykeham, Bishop of Winchester, founded New College in order to "repair the scarcity of scholars in the nation, having been swept away by great pestilences and wars." It was founded on a larger scale than any of the earlier colleges, on a site which had been found by a jury to be infested by malefactors, murderers, and thieves, as well as the scene of other nuisances.

All Souls keeps alive the memory of Agincourt. Its corporate name is "*Collegium omnium animarum fidelium defunctorum de Oxon.*" (College of the souls of all the faithful deceased at Oxford). It was founded by Archbishop Chichele in 1438, "that perpetual prayer might there be said for the souls of all who had fallen in the war with France, and of all faithful deceased." And for these thanks are still given at morning prayers in the college chapel.

The members of perhaps all the pre-Reformation colleges were required to pray for the souls of the founders, or of some persons specified, and such prayers were inserted in the daily service. With the Reformation these prayers for the souls of the departed were changed into thanksgivings for their lives, or at least for their benefactions. The 'Varsity sermon, preached every Sunday in term-time in St. Mary's Church, is preceded by the bidding prayer, in which thanks are given "for our creation, preservation, and all the blessings of this life, particularly for the liberality of founders and benefactors, such as were the illustrious. . ." Here follows a list varying somewhat in length, at the pleasure of the clergyman. I once counted thirty-seven names, including Prince Humphrey, Duke of Gloucester; Margaret, Countess of Richmond; Henry VII. and Elizabeth his wife, Henry VIII., Queen Mary, Queen Elizabeth, King James I., Sir Thomas Bodley, and many others. The prayer ends with praising God "for all his servants departed this life in his faith and fear, beseeching Him to give us grace to follow their good examples, that, this life ended, we may dwell with them in life everlasting, thru Jesus Christ our Lord."

St. Mary's Church has itself had as interesting a history as any of the colleges. It was founded in the early part of the thirteenth century, and every period of English history since then has left its mark upon it. It was here that the poor schoolboy, Edmund Rich (afterward Archbishop of Canterbury and St. Edmund), secretly, in the gloaming, placed a ring upon the finger of the Virgin, thus taking Mary to be his bride. Here just before Latimer and Ridley "lighted the candle which by God's grace was never to be put out in England," a man preached from the text "Tho I give my body to be burned, and have not charity, it profiteth me nothing." Here on the 21st of March, 1556, a great concourse of people assembled to hear the Primate of all England, the second Prelate in Christendom, proclaim his adherence to the Romish faith before he suffered martyrdom. Instead they heard him denounce the Pope as Antichrist, and repudiate all that he had said in favor of Roman assumptions, as being "contrary to

the truth which I thought in my heart, and written for fear of death, to save my life, if it might be. And forasmuch as my hand offended in writing contrary to my heart, my hand therefore shall be the first punished: for if I come to the fire, it shall be the first burned." Then he too went forth to join the noble army of martyrs—to atone by an heroic and glorious death for a weak and erring life.

It was the bell of St. Mary's that in the mediæval town and gown rows called the gownsmen to arms, while the bell of St. Martin's called the townsmen to arms. Here too memories of the Gunpowder Plot are still kept up, for it is in front of St. Mary's that the celebration of the 5th of November, which has taken the place of the town and gown rows, usually begins.

Coming down to the period of the Reformation, we have Christ Church College, founded by Cardinal Wolsey and sacred to the new learning. It recalls the days when students "rushed to Greek letters, and endured watching, fasting, toil, and hunger in the pursuit of them," the time when Erasmus "found in Oxford so much polish and learning that now he hardly cared about going to Italy at all, save for the sake of having been there,"—the days when he wanted money in order that he might buy "first some Greek books, and afterward some clothes." Nor is there anything more pathetic in the history of its founder than the story of how after his fall he addressed a most earnest petition to the King, that "His Majesty would suffer his college at Oxford to go on."

Forty religious houses were suppressed in order to raise an endowment for the new college. In a debate which I attended at the Oxford Union, in which the question of women's degrees was being discussed, one young man urged that to give degrees to women would be unfair to the founders and benefactors, who had intended that their gifts should be used for the education of men, not for the education of women. The next speaker suggested that in that line of argument it might be well to go back a little farther than the founders and benefactors. "Our largest college," he said, "was founded by Cardinal Wolsey. Where did he get the money from? Why,

he stole it from some nuns. And in which is it likely that the nuns were more interested—the education of men, or the education of women?" It is needless to say that he brought down the house.

Connected with Christ Church is the old Norman Cathedral, which was old when the college was new. It stands upon the reputed site of St. Frideswide's priory. Within its walls the shrine of St. Frideswide is to be seen, a shrine erected in the fifteenth century over the place supposed to cover the body of the saint. Almost as interesting as the shrine is the watch-chamber near it, where in pre-Reformation days men kept watch lest the body be stolen. This chamber is always locked now, because Oxford students, being not altogether unlike other students, had a habit of hiding in it, when they should have been listening to grave discourses, or absorbed in their devotions.

Altho Magdalen, loveliest of the Oxford colleges, is a pre-Reformation foundation, the age which it chiefly recalls is that of the later Stuarts—the days when James II. drove its Fellows forth from their peaceful cloisters and beautiful gardens to die of want or live on charity because they refused to accept a Catholic President. The walk under the elms which fringe the meadows on the banks of the Cherwell still bears the name of the gentle Addison. And the most delightful and most profitable hours that Walter Savage Landor could remember at Oxford "were passed with Walter Burch in the Magdalen walk, by the half-hidden Cherwell."

On Magdalen's beautiful tower at sunrise every May Day morning the following Magdalen Grace or May-morning hymn is sung by the college choir:

> "Te Deum Patrum colimus,
> Te laudibus prosequimur;
> Qui corpus cibo reficis,
> Cœlesti mentem gratia."

Below a great crowd is gathered to listen. When the hymn is finished the choristers throw their caps and gowns down into the street. A scramble for them ensues.

Around Oriel gather memories of Charles I.'s stay in

Oxford during the Civil War. Later the "Oxford movement" found its home there. We cannot pass Pembroke without recalling Dr. Johnson, while the Congregational Mansfield and the Unitarian Manchester testify to the more liberal spirit which the latter part of the nineteenth century brought to Oxford. Thus we might multiply instances indefinitely to show that each college represents its own phase or phases of English life and thought. A man chooses his college sometimes because it is the one with which his family has been connected for generations, sometimes because it stands for a movement with which he wishes to identify himself, sometimes because it is the college at which he can get a scholarship.

In coming to Oxford one always "comes up"; in leaving Oxford he always "goes down," and this no matter whence he comes or whither he goes. For it is the spiritual elevation which the Oxonian has in mind; Oxford is as Jerusalem, "whither the tribes go up"—the intellectual and spiritual center of the nation.

Before "coming up" for the first time, the student is required to pass an examination, which is variously known as "smalls," "little goes," or "responsions." This does not differ essentially from an entrance examination in one of our American universities. But the men who take it, coming up as they do from the great English schools, Eton, Harrow, Rugby, and Winchester, are generally considerably in advance of it. Especially is this true in classics.

In addition to "smalls," almost every man who thinks that he has any special ability takes a scholarship examination, and this often without much reference to his financial condition. For the position of the scholar is much more dignified than that of the commoner. He wears a different gown, sits at a different table in Hall, and is treated with much more respect than is the mere commoner. The policy of the English universities is to make poor and mediocre students pay the full price of their education, while the endowment funds are devoted to the education of men of real ability. In this they differ from American universities, whose policy it is to let

the endowments partly pay the expenses of all students, good, bad, and indifferent.

Smalls safely passed, and a scholarship secured if he is to have one, so far as his work is concerned, the Oxford man enjoys a freedom from regulations which to the American is surprising. No record is kept of his attendance upon lectures, and it is largely left to him to decide whether they are sufficiently profitable for him to honor them with his presence. Within a year and a half from matriculation he comes up for another examination called "moderations,"—commonly shortened to "mods,"—covering the work done in that time. Two and a half years later he takes another examination, "greats," which covers the ground gone over since "mods." Nothing counts toward his degree save these examinations. Whatever else he may do serves to give his associates an opinion of him, but does not count in any other way. Indeed, so much is the University built upon examinations now, that it is difficult to realize that it ever was otherwise. Yet in the Middle Ages these examinations were unknown. In those days when a man presented himself for his degree all that was necessary was that he should swear that he had heard certain books, and that nine Regent Masters should swear to their knowledge of his sufficiency therein, while five other Masters swore to their belief in his sufficiency. The former of these oaths was known as the oath *de scientia,* the latter as the oath *de credulitate.*

While the Oxford student to-day has more freedom with respect to lectures than is customary in America, in his life outside the lecture room he is obliged to submit to regulations that to the American university man would seem stringent and puerile. In the first place, he cannot take his degree unless he has resided at least three years in Oxford since matriculation. Residence in Oxford is defined as residence within a mile and a half of Carfax, the site of old St. Martin's Church. One sometimes finds two houses side by side, apparently equally desirable,—the rent of the one much higher than the rent of the other. The reason is that the one is just within, while the other is just without the limits. I

heard of one young man whose father's house was in Oxford, and who desired to live at home during his university course, but was not quite sure whether the house was within the limits or not. A survey was made, and it was discovered that one wing was within, while the rest of the house was without. He accordingly took a room in that wing. Another youth, on finding that his house was just without the limits, decided to sleep in his father's office, which was quite in town. Recently a young nobleman petitioned that, for reasons of health, he might be allowed to live four miles out of Oxford, while pursuing advanced studies in the University. The request was refused. Because no Scotch, American, or continental university makes so strict a residence requirement as this, Oxford acknowledges no degrees save her own and those of Cambridge and Dublin. In most of the colleges men are expected to attend the morning service in chapel at least four times a week, and to dine in Hall the same number of times. This dining in Hall is one of the features of Oxford life. By means of it the undergraduates meet a large proportion of the men who have made or are to make their mark on the history of their generation. Many a man will testify that he gained more from dining in Hall and from the talks in the common room afterward than from the library and the lecture room. Other meals than dinner are taken where the men please, commonly in their rooms. It is usual for a man to invite a number of his friends to breakfast, and when the talk is good it is customary to linger a long time over the table. So frequent a breakfast dish is marmalade that both Oxford and Cambridge men have been known to date their letters in some such fashion as this, "Michaelmas Term—middle of second jar of marmalade." It is not uncommon for the men to invite ladies, chaperons and chaperoned, to afternoon tea in their rooms. To the American this custom seems a little strange, but it is certainly delightful.

For centuries "Great Tom," the ancient bell of Christ Church, has every evening at five minutes before nine tolled a hundred and one times, that being the original number of students on the foundation of Christ Church. This is the

signal for closing the gates of the various colleges. The undergraduate who is out after that is obliged to pay a fine, which is increased at ten o'clock, and increased again at eleven, while one who is out after midnight is "sent down." A story is told of a youth who returned to his college at an early hour, but went out afterward in such a way as to escape the porter's notice, and did not return all night. Now according to law he should have been "sent down," but the authorities were much exercised to find that there was a way of getting out of the college which they did not know about, and it seemed to them that it would be worth while to make an investigation. Accordingly the young man was told that if he would explain how he got out he need not pay the customary penalty. He replied that he would take three days to consider the matter. At the end of that time he suggested that they look at Psalm xviii. 29. They looked and found the words, "With the help of my God, I have leaped over a wall."

The proctor, who is the disciplinary officer of the University and a great dignitary, walks the streets to see whether students are out after dark engaged in forbidden pranks. As he wears a distinctive gown, it is sometimes possible for men to see him several blocks off and dodge him. When he does catch a man in mischief, he takes off his hat to him, and asks, "Are you a member of this University, sir?" On the man's replying in the affirmative, he says, "Kindly give me your name and college." And as a consequence the next day the unfortunate youth hears from his college authorities. It is great sport to be able to lead the proctor a merry dance. It is said that at one time a fat proctor chased a young man all over town, only to find when he caught him that he was a clerk in a mercantile establishment. "Why did you run?" demanded the irate proctor. "Because," was the cool response, "I never heard that there was a law forbidding men to run in Oxford." It is contrary to rule that an undergraduate be out after dark without his cap and gown. This, I suppose, is partly to insure his identification as a university student in case he gets into mischief.

It is quite in accordance with the Oxford spirit to make many regulations for the life and few for the work. For the majority of Oxonians the life counts more than the work. Oxford trains a few scholars, a great many gentlemen. In the debate at the Union previously alluded to, it was urged that the Oxford man values his degree not so much because it means that he has read certain books and passed certain examinations, but because it means that he has lived a certain life. Inasmuch, the speaker said, as women can never lead this life, they should never be granted the degree, no matter how much they may know or what examination they may be able to pass. In a voice of passionate excitement he exclaimed, "Shall we see our university degraded into a *mere intellectual institution* like the University of London?" While not admitting the validity of the argument in its bearing upon women's degrees, I quite agree with the young man in feeling that if Oxford should ever become a mere intellectual institution (of which at present there is no danger), it would be a degradation.

When the examinations are passed, and the culture may be supposed to be acquired, the man comes up for his degree. The quaint ceremony is most interesting. The vice chancellor is seated upon his throne—the proctors on either side. The Heads of the colleges, in presenting their students, use a Latin formula which, put into English, is as follows: "Most illustrious vice chancellor and excellent proctors, I present these my scholars in the Faculty of Arts that they may be admitted to the degree of [Bachelor of Arts or Master of Arts, as the case may be]." When all the Heads have thus presented their men the chief proctor rises and reads the full list, and then says that if any tradesman present has a bill against anyone whose name has been read, he is to pluck the proctors' gowns as they pass thru the audience. The proctors then pass up and down the Convocation House, shaking out their gowns. Now it is hardly possible that there are tradesmen present. Should they be present, the proctor speaks in Latin, therefore they would not understand. Should they be present and understand, if they dared to pluck the proctor's

gown, as invited, they would be boycotted forever. Yet it would not do to give up a time-honored custom.

This ceremony being completed, the candidates kneel and are struck on the head with a Greek Testament. I do not know the origin of this, but it always seemed to me analogous to the ceremony of knighthood. There the man is struck on the shoulder, the seat of power, with the sword. Here he is struck upon the head, the seat of the intellect, with the book.

Finally, the vice chancellor says to each applicant for the degree of Bachelor of Arts: "Sir, I admit thee to the degree of Bachelor of Arts, and besides by my authority and that of the whole University, I grant thee power of lecturing, and of doing all other things that pertain to the same degree." To Masters in Arts, he says: "To the honor of our Lord Jesus Christ, to the advancement of our holy mother the Church, and of study, I, by my authority, and that of the whole University, grant thee permission of undertaking in the Faculty of Arts, of lecturing, disputing and of doing all other things, which pertain to the same Faculty, when the requirements of the statutes are fulfilled. In the name of God, the Father, Son, and Holy Ghost." And at these last words he bares his head "with the customary reverence." Until a comparatively recent date candidates, before receiving their degrees, were obliged to take an oath that they would not lecture at Stamford. This was because, away back in the reign of Edward III., there was a secession of professors and students to Stamford. They were induced to come back, but lest there might sometime be a similar secession, this oath was required of all those holding degrees. And because Oxford has a dislike of ever giving up anything, she continued to exact it until a time within the memory of persons now living.

Beyond the Master's degree no appointment to the Faculty is necessary. By this degree one becomes a member of the Faculty of Arts in the university, and continues to hold this position so long as he pays his dues. Of course many holders of degrees do not choose to remain in Oxford and teach, but anyone who does so choose may do so. The professors are otherwise appointed, but it is the tutors who do the bulk of

the teaching. The function of the professors is to advance the bounds of human knowledge rather than to teach.

The governing body of the University consists of two Houses—Congregation and Convocation. The former includes all residents M. A.'s; the latter all M. A.'s anywhere. No important changes can be made in the University save such as are approved by Congregation and ratified by Convocation. Hence no radical measure can be carried, until not only the university, but the country at large is converted to it. And the conversion of country squires and country parsons is a slow process.

The Houses of Congregation and Convocation are very impatient of speech-making. Everyone has made up his mind how he is going to vote; he does not wish to listen to speeches and arguments, but to vote and go home. Speakers are constantly interrupted with cries of "Sit down! sit down!" "We want our tea at four o'clock," and so forth. So to obtain a hearing, it is necessary that the dons print their remarks and send them around before the meeting. This they do at times quite freely. The manner of voting is as peculiar as everything else in Oxford. The proctors carry around two long strips of paper. At the top of the one is the word "*Placet*"; at the top of the other "*Non placet.*" Each man as the proctor comes around to him says "*Placet*" or "*Non placet,*" according as he wishes to vote for or against the measure. The proctor punches a hole in the proper strip, and when all have voted the number of holes in each strip is counted to obtain the result.

The great day of all the year at Oxford is that of the Encænia, or Commemoration of Founders. The exercises are held in the Sheldonian Theater. The prize essays and poems are recited, and the honorary degrees are conferred. This last ceremony is most amusing. The great men are presented to the vice chancellor by one of the professors, who makes a long Latin oration telling what each one has done, and why he is to be honored. The undergraduates in the galleries keep up a constant jeering, which, as it seemed to me, is rather encouraged by the authorities than otherwise. I do

not think that the things they say are especially bright. I am inclined to think that American boys would say brighter things. What makes the young Englishman's remarks so irresistible is that he says the sauciest things imaginable in the most polite manner possible. For instance, the vice chancellor of course wears his hat, only uncovering his head when the ceremony requires it. The undergraduates keep calling to him, "Take off your hat, sir! There are ladies present, sir! Take off your hat, sir!" A false quantity is always welcomed by a round of applause, and often there are false quantities which none save undergraduate ears can detect.

The stories are well known of how when Browning received his degree a red cotton nightcap was let down upon his head, and of how when Tennyson came up for his with his shoestring untied, he was greeted with the question, "Didn't your mother call you early enough, Alfred, dear?" I was present when a great literary man and statesman very popular at Oxford received his degree. The professor who presented him was interrupted by cries of, "Suppose you were to dry up, sir! We very often have a chance to hear you speak, sir! But there is a report that the gentleman is able to speak, sir! We would much rather hear him speak for himself, sir! Suppose you were to dry up, sir, and let the gentleman speak, sir!"

I have tried to describe the life of Oxford, but to understand it, it must be lived. When Max Müller was a young man in Germany planning his life's work, he came to the conclusion that the conditions under which it might best be accomplished were those of the mediæval monastery. And because he found these conditions more nearly approached in the English university than anywhere else, he chose to live and die as a Fellow of Oxford. That is what Oxford is—a place not only where boys can get an education, but also a place where learned men may pursue their studies amid peace, beauty, and leisure.

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ROSELLE, N. J.

V

SHORTER TIME IN ELEMENTARY SCHOOL WORK

In this discussion it is not assumed that children start to school before they are six years old, and in most cases they are actually between seven and eight before they are enrolled. The contention is that children of average ability will complete all there is worth knowing in a heavy course of study, such as is prescribed in the best elementary schools of this country, in seven years, if they are let out in their work and are not held back, and that they will be just as strong in English grammar, United States history, geography, and arithmetic as they are in an eight years' course. An ounce of fact where it has been tried and tested for more than a third of a century is worth more than a ton of theory, and it is on an experiment of this kind that the following argument is based. Educational questions cannot be settled in a year or two, and in an offhand way. A generation, at least, is necessary to tell what the outcome of an educational experiment may produce when tried along safe lines.

History—The traditional course of eight years was entered upon in Ohio when the system of graded schools was in its incipient stage in that State, and American educators, having taken their clew from Germany, adopted the eight-year course as a working basis for city and town schools. This was tacitly agreed to in all the States as they organized graded schools, except in a very few towns and cities of the West. There soon sprang up a feeling in some quarters that children of fair ability and ordinary intelligence made very slow progress in their studies under the eight-year scheme, and that the work was cut out into too many very thin slices, so very thin indeed as to have little of either crust or substance in them. Superintendents, principals, and teachers generally worked along ap-

parently well satisfied, unconscious seemingly that time was actually wasted. To question the eight-year scheme was regarded in many quarters as the worst sort of educational heterodoxy. In fact the grading business was carried on so far in some towns and cities that the eight-year period was spread out to nine years, and in some instance to ten years, based upon the plea that children entering at four, five, or six years of age should be kept in the leading strings for nine or ten years.

Enrichment period—Several years ago in different localities superintendents and principals actually turned their eyes to the inside of their schoolrooms and began to question seriously the courses of study, the relative value of the subjects, and other matters of vital interest, and soon they began to pitchfork in a little subsoil fertilizer here and there in the way of spiral physiology, physics, and chemistry in broken doses once a week, by having the grade teachers first load up and fire off squibs of knowledge for thirty minutes; meantime the pupils took notes, and then another half hour was devoted to what had been learned the week before; or, reversing the method of procedure, the questioning on the previous lesson came first, and the priming for the next week followed. This movement, and all that came out of it, depended upon the fact that the traditional course had been spread out so thin and so long that relief was absolutely necessary in order to avoid a regular stampede from the schools. The modern nature study that has now run wild is only an expansion of what was begun then. The movement is not epidemic thruout the country, tho it spread with violence in some localities, so that it is a question now in some schools as to what the course of study is—the regular branches prescribed by law, or the "pitchforked branches" so that the children are kept running to and fro in and the end of which is not yet in sight.

President Eliot's plan—Amid all this confusion, President Eliot years ago came before the public and advocated early specialization as a necessary condition in educational progress. From my point of view I always regarded this position as maintained by the distinguished President of Harvard as un-

sound in two particulars, namely, that there is no safe way of telling just what a young boy or girl will be best fitted for in manhood or womanhood; and secondly, that to specialize before one has sufficient knowledge upon which to specialize, is based upon a faulty method of intellectual procedure. I always suspected, tho it is merely an inference, that President Eliot used specialization as a stepping stone to something higher.

A few years later, however, he made another advanced step, and a long one at that, when he asked that the elementary school curriculum be enriched by injecting foreign languages, elementary algebra, and some other studies, and that boys who were destined to take a classical course of study ought to be transferred to the Latin schools without being detained unnecessarily two or three years in the regular elementary school work. Such doctrine, coming from a source so highly esteemed, attracted attention in all sections of the country, and there was a very general feeling that he had hit a sympathetic chord which was vibrating in many breasts. Whether it be the right one or not has little to do in this discussion, except to show that he had discovered the weak spot in the courses of study in operation in the elementary schools of this country, and that the children were kept doing a very little very laboriously for several years. Whenever a weak spot is found in a structure, the proper thing to do is to strengthen it at that point and make it the strongest one, if it can be done. Whether the remedy suggested by President Eliot was the best one under the circumstances is simply a matter of opinion. As I regard it, I think it was eminently worthy of serious consideration, and it was perhaps as good a solution as could have been suggested.

Superintendent Maxwell of New York nearly ten years ago proposed a six years' course for the graded schools and a six years' course for the high schools. His view was that the child in six years would get all that was really valuable in the graded work, and the six years in high school would round out and strengthen his scholarship better than under the usual régime.

President Butler, in his Minneapolis address last July, vir-

tually took the same position in maintaining that time was lost in the upper grades, that is, fifth, sixth, seventh, and eighth of the ward schools, and also in the college course. As his address will be published in full in the Proceedings of the National Educational Association it is referred to here in order to give a connected sketch of the subject, and the place it holds in this far-reaching discussion. However, the first time that President Butler expressed himself clearly upon the time element was at the Cleveland meeting of the Department of Superintendence in March, 1895.

Retardation in school work—From some statistics investigated by Superintendent Soldan of St. Louis about three years ago he came to the conclusion somewhat hesitatingly that retardation occurred in all the four lower grades, and not the four higher grades, as was generally believed, but that the sixth, seventh, and eighth grades indicated a decided acceleration in time.

Time in the Kansas City Schools—The Kansas City Public Schools were organized upon the hypothesis that the child of average ability could complete the work in the elementary schools in seven years. That was then a departure from the schedule time in all the large cities of our country, which is eight years, each year consisting of ten months. Here the school year is nine months, and the difference in time for completing the work before entering high school is seventeen months, and the total difference in school months thru the ward school and the high school is twenty-one.

Another factor, a climatic one, had considerable to do in causing us to change from a ten months' session to nine months. Usually, when winter leaves, hot weather bursts suddenly upon us, and not infrequently half of September is as sultry as August. With the thermometer "up in the nineties," either at the close or at the beginning of the school year, the teachers and the pupils are not in the best physical condition to do effective work.

Beginning school two weeks later and closing two weeks earlier, teachers and pupils work more energetically and with far less exhaustion of the vital forces. It is also an incon-

trovertible fact that the attendance during the last month of school under the present system is much better than when the time was ten months. The withdrawals are less frequent among all classes.

Turning aside from the consideration of these outside influences, the question naturally arises: Can the child of average intellectual power do eighty months of school work in sixty-three months? This proposition may at first appear startling, but in reality it is not so. All the pupils in the elementary schools are at work for 5 1-4 hours each school day in the year except the first and half of the second grade. The children work a longer number of hours each day, and what is lost is made good by more intense and longer work each day, so that when the whole number of hours per year is taken into account, the discrepancy is not so great.

Examination tests—The only effective method, and the one that has a long line of precedents back of it, was to give the pupils in our seventh grade such tests as had been used in different places to indicate scholarship, and these tests have been freely and frequently employed for a long series of years and with most gratifying results. I have submitted West Point examination questions, Regents' questions for the State of New York, Teachers' examination questions, city examination questions, Civil Service questions, uniform State examination questions, etc., in all the common branches, particularly in English grammar, geography, United States history, and arithmetic, and our seventh-grade pupils have uniformly stood high. In addition to this I have submitted special tests from superintendents of other schools so as to compare the results. In the lighter subjects of composition, drawing, music, calisthenics, reading,—whether by sight or lessons that had been previously studied,—we are always ready and anxious to enter the list against any city school in the entire country. As to tests of this kind, I know there are those who do not value them—in fact who do not put any stress on scholarship in any form except power to do something, I know not what. In concluding this, I will say that the questions given to our seventh-grade pupils this year and to the sixth grade in

geography were the uniform questions prepared for the State of Indiana.

The element of time—The first investigation that I instituted in a thoro manner for determining how long it took for pupils to complete the work on schedule time was in 1885. In a system of graded schools there are four groups of pupils:

(*a*) Those entering school for the first time;

(*b*) Those who have finished the lower work and are "up to grade";

(*c*) Those who are able to go more rapidly than the average class, and are the subjects of individual or special promotion;

(*d*) Those who have fallen behind in the regular class work and cannot keep up.

Only in rare instances, if a pupil is regular in attendance, does he fail to pass. The work laid out for each term or year is what the child of average ability is capable of doing, and the pupils for working purposes may be thrown for convenience of treatment into three classes:

(1) Those on schedule time;

(2) Those ahead of schedule time;

(3) Those behind schedule time.

This division implies three different kinds of school phenomena to be investigated and to be accounted for, so that the conclusions in each case would square with the premises involved. In furtherance of this conception, in the latter part of the school year of 1885, each pupil in the sixth and seventh grades was handed a slip of paper and requested to write answers to the following questions:

1. Name and age and when first started to school.
2. Number of years attended school.
3. Number of years attended Kansas City public schools.
4. Number of years attended other schools.
5. Number of years lost on account of sickness or irregularity.
6. Number of times put back in studies. Where? By whom?
7. Number of times failed to pass at examination.
8. Age May 31, 1885.

Five hundred and ninety-six pupils wrote replies to these questions, and in each room I examined carefully all pupils reporting themselves ahead of or behind schedule time, and while in a very few instances I had reason to suspect the accuracy of the statement submitted in writing, yet I am satisfied that at least ninety per cent. of the answers given were entirely reliable, and that the remainder were accurate enough to indicate all facts necessary to aid me in forming a proper estimate in regard to time and the work set apart for it in our schools. The history of the child in the schoolroom is his own daily experience, and he treasures it up with surprising accuracy, and each pupil had a clear, definite notion of when, where, and in what grade he lost time, and he could give an intelligent account of the conditions.

Of the 596 pupils examined, 247 were on schedule time. That is, they would complete the ward-school course in seven years of nine months to each year; 182 were ahead of time, and 167 were behind time.

The result may be expressed as 72 per cent. on time and ahead of time, and 28 per cent. behind time. Of the 167 behind time, or those who were obliged to remain in ward schools more than seven years, the following causes embraced all cases:

(1) Forty-four lost time on account of sickness.

(2) Thirty on account of irregularity.

(3) Thirty-nine on account of changing school; that is, in changing from private school to public school, or the reverse; or in coming from other public schools to ours.

(4) Fifty-four had failed and had to go over the work again.

Examination of 1886—In order to obtain more definite information in regard to the pupils belonging to the seventh grade in the ward schools and expecting to enter high school in September, the following card was handed to each pupil, with the request that he answer each question in writing. The pupils under the direction of the principals and myself cheerfully complied with the request and filled and signed the cards, of which the following was the form:

(1) Age when entered school.
(2) Age June 1, 1886.
(3) Number of years attended Kansas City public schools.
(4) Number of years attended other public schools.
(5) Number of years attended private school.
(6) If ever put back in your classes, give reasons.
(7) How much time have you lost from school?
(8) Could you have gone over the work more rapidly?
(9) Were you held back in your studies?
(10) Did you have too much or too little school work to do?

The number of seventh-grade pupils who intended to enter high school and reporting was 213, of which 61 were on time, 58 ahead of time, and 95 pupils behind time; 81 had lost time in changing from private to public school, and on account of changing residence from one town to another, or on account of sickness, or irregularity of attendance, while the other 14 were slow pupils. With those behind time, seven years and three months would put nearly all on time, and only one would have required eight years.

Examination of May 26, 1893—This examination included 11,213 pupils, whose standing at the close of the school year was as follows:

(*a*) Two hundred and sixty-one pupils were ahead of time; (*b*) 8933 were on time; (*c*) 1334 were eighteen weeks behind time; (*d*) 705 were twenty-one weeks behind time. The *course of study* contemplates the finishing of certain portions of school work each twelve weeks. Some bright pupils are able to complete the work of a term in less than the prescribed time. Such pupils are specially promoted to a higher class if it is thought advisable to do so.

The next year twenty-five principals of ward schools were requested to examine and report how many pupils in the fourth, fifth, sixth, and seventh grade would complete the year's work in each grade mentioned. There were 8229 pupils included in this list; 6519 were on time; 1657 were three months behind time; 268 were six months behind time; 143 were nine months behind time. To put this result in a more practical form, of every 100 children then in the ward schools, 75 had done a

year's work in nine months; 20 would require twelve months, and 3 fifteen months.

It would be repetition of the same items slightly varying to present the results each year, so I will omit a part of the years intervening between 1893 and 1902, altho I have the data for the entire period.

Record for the school year ending 1898-99—In the seventh-grade class were 1139 pupils, and 988 of this number were promoted to the high schools, and 151 were not promoted; there were 1569 in the sixth grade, of whom 1118 were promoted to the seventh; there were 1772 in the fifth grade, and 1279 were promoted to the sixth. Of 2468 in the fourth, 1867 were promoted to the fifth; of 2900 in the third, 2366 were promoted to the fourth; of 2862 in the second, 2399 were promoted to the third; of 3655 in the first, 2867 were promoted to the second. This takes account of the pupils who remained in school till the close of the school year. The figures indicate the greatest variations in the fifth and sixth grades. It should be borne in mind that pupils of the first grade enter school any time during the year, so that some are first grade who have not been in school perhaps more than three months, yet they are counted.

In 1901—Of 1464 pupils in the seventh grade at the end of the year, 1229 were promoted to the high schools and 235 were overtime. Of 1646 promoted from the sixth to the seventh grade, 1387 were on time, and 257 were overtime; of 2283 promoted from fifth to the sixth grade 1842 were on time, and 441 were overtime; of 2885 promoted from fourth to fifth grade, 2243 were on time, and 642 were overtime; of 3279 promoted from the third grade to the fourth, 2906 were on time, and 567 were overtime; of 3291 promoted from the second grade to the third, 2815 were on time, and 476 were overtime; of 3967 promoted from the first grade to the second, 2989 were on time, and 978 overtime.

In 1902—Out of 1344 in the seventh grade, 1171 were promoted to high school on time, and 173 were overtime. Of 1868 promoted from the sixth to the seventh grade, 1500 were on time, and 368 were overtime; of 2397 promoted from the

fifth to the sixth grade, 1987 were on time, and 410 were overtime; of 3212 promoted from the fourth to the fifth 2396 were on time and 816 were overtime; of 3261 from the third to the fourth, 2800 were on time, and 461 were overtime; of 3487 promoted from the second grade to the third grade, 2944 were on time, and 543 overtime; of 3963 promoted from the first grade to the second grade, 3716 were on time, and 247 were overtime.

These statistics running over a series of several years indicate beyond a doubt that the average pupil has done and can do the elementary school work in seven years, and does it well, in fact just as well and as intelligently as it is done by those whose rate of speed is one-seventh slower.

Before taking up the influence that a seven years' course has upon increasing the attendance in high school, I will present two other factors which have a strong bearing on the education of children, to wit, the course of study and rushing children thru school.

The course of study—A course of study is a way blazed out to guide teachers as they conduct their pupils along the pathway which leads from ignorance to knowledge. It should prescribe the minimum amount of work for the child of average ability, and what he is capable of doing when working under a fair degree of regular but healthy pressure. A course of study should not be made like a garment and the children fitted into it, but it should be developed by degrees so as to fit the children; in other words, the course of study is for the children, and not the children for it. A course of study must be a growth, or gradual development, and is never a "patented machine" with all its parts perfectly adjusted to one another. In one sense it is a living, growing organism, which has expanded in different directions, some of whose parts may require clipping or enlarging, owing to circumstances. Bad is it for the pupil whose teacher knows in advance just what the pupil will become.

The course of study best subserves its purpose when it is regarded as a working model, not to be interpreted literally, but having sufficient elasticity to allow the utmost freedom consistent with good work within reasonable limitations. The

basic principles constituting every course of study for the common schools should be reading and spelling, arithmetic, grammar and composition, geography, and United States history, and upon these eighty per cent. of the children's intellectual energies should be expended. In so far, however, as courses of study have deviated from these elementary branches, have sound scholarship and the character of the schools been lowered. Two extremes are to be avoided after a course of study is mapped out; the first is that of absolute perfection as it sprang from the brain of the framer, and the second is the continual itching to change because of the novelty of a new creation. All courses of study should be general, not too specific in their character. Just as soon as specific doses of instruction are hourly, daily, weekly, monthly, and yearly prescribed, and are duly administered in appropriate boluses to the pupils, just so sure will nearly all important matters be neglected, the teachers be degraded to schoolroom pharmacists, and the pupils practiced upon as helpless victims. I know of no better way to kill both teachers and pupils than by over-prescriptions and proscriptions.

Rushing children thru school—There is an uneasy desire to ruch children thru school—a tendency widespread in its nature and very far-reaching in its consequences. It springs from the haste that we manifest in all enterprises in which we engage. In nearly all matters of public and private interest undue haste is everywhere apparent. That this idea should creep into the educational system of this country, from the highest to the lowest, is a serious matter for regret. Hothouse scholarship has no element of real scholarship in it, such as marks the highly disciplined mind. There are gifted individuals here and there who, apparently, set all rules and restraints at defiance, and who reach at a single stroke what requires persistent effort for months or years for the average mind to grasp. But these are rare exceptions. They are speed horses of the human race. For such there are no rules by which they can be properly governed. They are a law unto themselves.

If we bring our reflections into a narrower range, we find the idea of getting thru certain subjects without mastering their

essentials is one of the many phases under which unreasonable haste manifests itself. Children should never be permitted to lag along lazily in their studies, nor rushed thru them at a hand-gallop. One subject well studied, thoroly mastered, and properly assimilated by the pupil, is worth more than a half dozen subjects surface skimmed. There is another phase of this subject that requires no little attention, and that is this: few teachers seem to have adequate notions of the working power as well as the enduring power of children. What hurts a healthy child is to keep it doing nothing, or next to nothing. Such a child needs to work and to work vigorously, but also the work ought to be changed every half hour or so. Following such a course, bright and fresh thoughts are generated. The same enthusiasm that the healthy child puts into play should also be present in school work. It is a good sign when the true teacher reports such pupils or classes as "good workers."

That many teachers underestimate the working capacity of their pupils must be evident to anyone who will investigate the matter carefully. In questioning pupils as well as classes, I have been frequently told when I ask the questions beyond what the children are supposed to know, that "they [the children] have not had that yet," and then, by a series of questions adroitly put, succeed in bringing out the very information of which they were supposed to be ignorant. This may be accounted for in two or three ways, (1) the manner in which the teacher had attempted to elicit the fact, (2) in using language that the children did not understand, (3) in not giving the children credit for knowing some things they had learned outside of the schoolroom.

Three things are to be avoided—extreme haste, extreme waste, and snail progress of the pupils thru the school. Nature is a far safer guide to follow in the education of children than any other. Only in exceptional cases does it "beat time."

A child must grow 365 days to be one year old, and it cannot reach its tenth birthday till it has lived ten full years. A three-year-old colt, under natural laws, must live longer than two

years and not less than three to be of that age and solidity. Under extraordinary conditions the hothouse plan of unnatural stimuli may be applied, but whenever it is, it is always at the expense of the physical and mental qualities of the child. The conditions involving endurance in children cannot be estimated by any definite kind of numerical computation, and the best that is possible is a sort of tentative process for each individual. Parents and teachers can gauge deleterious consequences, and the limit thus approximately determined may be approached, but not passed beyond without danger.

Can a man make himself over? Can a leopard change his spots, or the Ethiopian his skin? What answer does education give to this question? Is there a strong typical resemblance among educated people of all kindred nationalities, as there is said to be among the thieves of Europe and America? If there be those who need remodeling, can they be remade by the aid of educational surgery? All these questions, when stripped of superfluous matter, simply mean that if we would produce a better class of people than any now existing as a nation, we must insinuate into hereditary influences noble aspirations that will counteract or re-enforce the transmitted traits. To work upward the lower strata of human nature higher motives must be substituted for lower ones, that the mind may be moved by feelings leading to that high conception of things that has stimulated the great and the good of all ages. Under whatever name this work is undertaken, it is teaching. The teachers accept the human material sent to them, and if it is faulty, they endeavor to improve it by application of such influences as they have control of. That general vagueness, called humanity, has transmitted with the life of each individual both good traits and pernicious ones, in the formation of each one's mental and physical equipment, the accumulated inheritance both of mechanism and function—so that education is a destroying process going hand in hand with the building-up one. Unless the forces of education be moved in the right direction, the child may be injured, when the aim is to help him. The child must be docile—that is, in the right frame of mind, susceptible to the learning influence; and if not, then the

teacher must bring about the necessary change thru the mediums of skill and patience. The possible variations may arise—the teacher becomes impatient, or the pupil grows intractable. Either is fatal unless the evil is removed. A keen analyst can hardly tell which is the more dangerous. A teacher's impatience may be controlled; if it is not, usefulness is gone. Heroic treatment is demanded for the intractable pupil in order to bring into active operation a better attitude of mind. Should the pupil be defective in receptive power, whether of his discipline or instruction, the teacher must first bring to bear such a force as will, if possible, produce the desired result. Great is the teacher who reads human nature as it is. Youngsters may be sent to school perfectly docile, or as untamed as young tigers, but the solvent, kindness, will tame the ferocious hyena as well as the more kindly disposed animals. Unless the mental deficiencies are extremely abnormal, the savage nature of the most refractory child will yield to the same subtle influence. What is herein indicated may not reach every case, but it will win most of them, leaving a small remnant—the incorrigible—to suffer the consequences of their own folly. No provision, it may be argued, is left for those sudden explosions of anger which sometimes burst forth without a moment's warning—crimes, as it were, without malice aforethought, that need immediate attention. Such ebullitions of passion are exceedingly rare, and unless they lead to manslaughter, or the brandishing of dangerous weapons, I am still of the opinion that it is better in applying the proper remedial agents, to proceed at a very moderate pace. Universal experience is that one heated by passion will probably act unwisely. By slow degrees, then, the character may be largely modified by neglecting or suppressing certain personal traits and stimulating others. In this sense pupils may be remodeled. To indicate the path of action is as much as can be done to encourage and inspire the thoughtful teacher.

High-school attendance—As a result of a seven years' course of study in the elementary schools of Kansas City, the enrollment of pupils in the high schools is greater than in any other city in this country, unless it be Springfield, Mass., in propor-

tion to the total enrollment of pupils in the public schools, or in proportion to the entire population of the city, and the number of graduates from the high schools is higher in proportion to the total school population enrolled, or in proportion to the entire population based upon the United States Census, than in any other city of the country. To substantiate these assertions I herewith submit the statistics for the past four years, and to which I invite the attention of city superintendents of all other cities of this country having a population of 100,000 inhabitants or upwards.

Beginning with 1899, the total enrollment was 27,314 pupils; enrollment in high schools 3116; in 1900 the total enrollment was 27,553, enrollment in high schools 3464; in 1901 the total enrollment was 28,280, in high schools 3602; in 1902 the total enrollment was 29,194, enrollment in the high schools 3732. Expressing the ratio of the high-school pupils to the whole enrollment, in 1899 it was 11.4 per cent; in 1900 it was 12.5 per cent; in 1901 it was 12.3 per cent; in 1902 it was 12.7 per cent.

The graduating classes for the corresponding years were as follows: For 1899, 300; in 1900, 387; in 1901, 440; in 1902, 486. The population of Kansas City, according to the United States Census of 1900, was 163,752, and now it is about 175,000.

How time is gained in the elementary schools—By keeping the children moving forward in their studies, and by attacking principles instead of fooling around on unimportant details which confuse and unsettle clear and definite ideas that should be firmly fixed as working centers. I cannot better illustrate this thought than by referring to the analysis of sentences in the English language, upon which children in the grades spend so much time uselessly. By getting hold of the few essentials elements in sentences, and there are never more than three of them in one sentence, then the modifying elements, which are of two kinds, and the connecting elements,—the thing is done. With children of average ability in the fifth, sixth, or seventh grade, I will agree to teach them in three weeks all the essentials in the analysis of sentences in English so that they will have no trouble, unless it be with " idiomatic expressions "

which may be susceptible of several interpretations. Much of what I have herein outlined can be taught to children in the fourth grade, and they will enjoy it, too. Instead time is wearisomely drawn out and the delicate web is spun for two or three years in doing what, if sensibly attacked, can be just as thoroly done in as many weeks. There is perhaps greater waste in teaching arithmetic with all its useless and irrational verbiage. All that I can do here is to refer to these matters and denounce the methods that are "time-wasters." In hundreds of instances the children have told me that nine-tenths of their trouble and bother in arithmetic came from the way they "had to say the thing," and not from the work and the answers. Instead of letting children work out a dozen or twenty examples at a recitation, the whole period would be spent in checking up the pupils' language, or in putting the solution into shape after the entire process had become frozen. On a rational basis of teaching, the time in arithmetic can be cut down at least two-sevenths, perhaps more.

Summary—1. It has been shown that pupils can complete and do complete a strong course of study in seven years, and that they stand just as high tests as do these who are on corresponding subjects eight years.

2. That more pupils are in our high schools than in any other large city in the Union in proportion to the total enrollment of pupils, or in proportion to the total population of the city.

3. That a greater number of pupils graduate from our high school each year, on the same ratios, than in any other large city.

4. That in point of scholarship, the children that have been educated on the eleven-year scheme are just as well prepared to enter higher institutions of learning as are those who spend twelve or thirteen years.

In conclusion, I have submitted facts and I leave it to others to digest them.

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VI

HYGIENE AS A FACTOR IN EDUCATION

Notwithstanding the importance with which sanitation is generally regarded, it must be admitted that the teaching of hygiene is a neglected subject in our educational system. Perhaps "neglected" is too strong a term to apply here, for hygiene as a definite branch of applied science is a subject of such recent growth as scarcely to have had time to make its objects and methods thoroly understood.

The following remarks, based on personal experience in seeking to obtain the training of an expert in hygiene and on a recent review of the status and prospects of sanitary instruction in the United States, are intended to point out some of the practical lines upon which the teaching of hygiene can be advantageously developed.

Hygiene in the schools—Here and there among the schools the importance which attaches to at least an elementary knowledge of physiology and the laws of health appears to receive some recognition. A good many schools provide reading lessons or brief courses of recitations on the principal functions of the body and the sanitary aspects of diet, clothing, exercise, and ventilation; but for the most part this instruction is open to the criticism of being perfunctory, superficial, and lacking in vitality. It is to be noted that the cause of temperance is often confused with that of sanitation. The difficulty seems to be that most of the teachers have had no personal training or practical experience in the broader and more scientific bearings of hygiene, while their care of the pupils in the classroom and their conduct in and out of school are often in disagreement with the principles advocated in the books. Under these circumstances it is not strange that pupils should come to regard the study of hygiene as lacking in interest and practical significance.

Yet there is nothing about the study of the sciences at the foundation of hygiene, nor in the practical applications of the subject, to make it dull. Chemistry, biology, bacteriology, physics, and sociology all permit of the most entertaining exposition, and the applications of these sciences to familiar customs of everyday life offer opportunities for very effective illustration. Proof that it is feasible to make the teaching of hygiene highly attractive and profitable, even to very small children, has been given in English and German schools. An excellent paper by Miss Ravenhill in the *Journal of the Sanitary Institute of Great Britain* for 1899, describes in detail methods which may be used in accomplishing these results.

The preparation of teachers—Careful investigation of the question shows that the greatest need in the teaching of hygiene is the need of facilities for the instruction of teachers. In England school-teachers qualify themselves for teaching physiology and hygiene by taking a course of thirty or forty lectures, upon the completion of which they receive a certificate showing the nature and extent of their training in this direction. Nothing of this sort is available in the United States for the great majority of teachers. School-teachers are not expected to have an extensive knowledge of hygiene, and it is regrettable to observe that those who have taken the trouble to secure a thoro preparation in this subject receive no suitable recognition for their work.

There is no clear reason why a certificate of proficiency in hygiene should not have a pecuniary value and a diploma in sanitary science be worth something in the way of additional salary, for such training gives assurance that its possessor has an equipment which can be made of the greatest service. But until public educators come to realize the physical and moral importance of hygiene by making its teaching more general and scientific, the demand for the services of persons who have had this kind of instruction will be limited, and the great majority of teachers will find it more profitable to equip themselves in other lines.

Facilities for higher training in hygiene—The facilities

offered in the United States for higher instruction in hygiene are but little better in character than those found in the schools. University students are but rarely compelled to study sanitary science, and it is entirely possible for a graduate receiving the highest honors to know next to nothing of the laws of health, upon which his very existence depends.

Nor is it easy for those who have the inclination to obtain satisfactory instruction in hygiene. Practically the only way for a student to make a serious study of sanitary science is to take advantage of the elective privilege offered by the universities and make a judicious selection of the courses which appear to have the most important bearing upon the subjects with which he desires to become familiar. Even then the proper facilities will often be lacking. Expert hygienists thoroly qualified in all the sciences which pertain to their subject are rare, and the university laboratories in which investigations in hygiene are regularly carried on can be counted on the fingers of one hand.

A committee of the American Public Health Association, composed of eminent health specialists, after giving two years to the study of sanitary instruction, have reported on the amount of attention which, in their view, should be given to this subject in order to obtain the training necessary for various purposes. The committee recommends that a short series of elementary lectures on personal hygiene and sanitary science, particularly as these subjects relate to the prevention of infectious disease, should be available for all students in the various faculties of universities. In addition, an advanced course in hygiene should be given to all students in universities and colleges, to include not only personal hygiene, but such instruction in municipal, State, and national sanitation as would give them an intelligent and sympathetic interest in all measures relating to public health.

The committee considers that sanitary engineers should have at least a year's scientific training in hygiene, including laboratory instruction in sanitary chemistry and bacteriology, sanitary law and administration. Expert sanitary chemists and bacteriologists require at least two years' special training,

with a certificate of a year's service as assistant in this special line of work. School-teachers should have a certificate showing that they have attended a course of thirty or forty lectures especially adapted to help them carry out intelligently such measures as may be necessary for the welfare of the pupils under their charge. Supervision of the health of schools should be intrusted to medical school inspectors, who should have special knowledge of school hygiene and the diagnosis of infectious diseases, and be specially trained in making examinations as to the sight and physical condition of pupils and the regulation of such gymnastic exercises as are appropriate to the case. The examinations and certificates of sanitary inspectors and inspectors of food, as given by the British Sanitary Institute, are indorsed. Such examinations require a general education and evidence of having attended a course of from twenty to forty lectures with practical demonstrations.

The training of health officers—But if school children, teachers, and university students find a lack of proper facilities for the study of hygiene, what is to be said of the training of that important class of officials charged with the responsibility of guarding the public health? As a rule, no training whatever is required of health officers by law, and no provision is made by municipality or State for their instruction. Excepting in Vermont, and a few other States, it is impossible for health officers to obtain any preparation for their work except such as they may themselves elect in special courses at the universities. In England the degree of Doctor of Public Health is especially intended for health officers, and adequate courses of instruction in the latest practices in sanitation and preventive medicine are in reach of all. The requirements which must be satisfied before the English degree of D. P. H. is conferred indicate the character of the training which in the opinion of the committee of the American Public Health Association it is needful for this class of experts to obtain. As at present constituted, the requirements for the English diploma in public health stipulate that the candidate must be a physician and have had six months' scientific training in hygiene, including sanitary law, sanitary administration,

laboratory instruction in sanitary chemistry, bacteriology, and the study of preventive diseases; in addition he must have served six months as an assistant to a medical officer of health.

Sanitary instruction in medical schools—Inasmuch as the tendency of medical practice is to seek and remove the causes of disease, it is surprising that the medical schools have not accorded hygiene a more important place in their schedules of instruction. It is interesting to note the views of President Eliot of Harvard on the present status of this subject and the necessity of increasing the share of attention now given to hygiene in the medical schools.

In *Educational reform,* President Eliot says:

> Pathological exploration has taught us the approximate causes of several important diseases, and, therefore, has taught us where to seek their sources, altho, indeed, the pure cultures of bacteriology do not occur in any such simple and isolated form in the actual environment of men. We have learned much about the transmission of disease thru drinking-water, ice, and milk. We understand better than ever before the intimate connection between some diseases of animals and diseases in man. We are put on our guard against the long-lived scales or flakes of scarlet fever, the sputa of tuberculosis, the stools in typhoid, and other excreta of diseased persons. Nevertheless, few physicians seem to be capable of tracing to its source an epidemic of typhoid fever, for example, or an outbreak of scarlet fever or diphtheria. I have been told, both in this country and in England, that this faculty is rare among physicians, so that health authorities are obliged to train specialists for such service. It seems as if every physician ought to be guardian of the community in this respect, capable of rendering the promptest and most effective service at a moment's warning. Yet to be equipped for such service means thoro acquaintance with the most recent developments of preventive medicine, and with the newest methods of research which chemistry, physics, and biology have at command. Such duties are sometimes spoken of as extra-professional; but that term, so applied, seems to restrict the medical practitioner to the mitigation, or cure, of disease, without recognizing his more important function in the prevention of disease.
>
> The progress of preventive medicine has imposed on physicians a new class of duties, and there is an infinite amount of teaching to be done in regard to all these subjects.

Careful analysis of the courses of instruction offered by medical schools shows that the amount of attention given to hygiene is insufficient for a thoro knowledge of the subject. The committee of the American Public Health Association

on the teaching of hygiene, reports that an expert knowledge of hygiene cannot be obtained by graduates of medical schools as now constituted in the United States in less than two years. The student should have a thoro grounding in all branches of hygiene such as might be covered in a course of forty or fifty lectures and demonstrations, together with some elementary laboratory work in hygiene and some practical training in sanitation, such as disinfection, house inspection, etc. A more advanced optional course should be given to students who wish to study the subject more deeply. A diploma course, open to post-graduates, should be available for those who wish to become specialists in hygiene.

Outlook for better instruction—Nothwithstanding the present unsatisfactory status of the subject of sanitary teaching, the outlook for better and more general instruction in hygiene is not discouraging. The subject so richly deserves to be taught in the primary, secondary, and higher schools of learning that it is impossible to believe that this fact will not soon bring itself to the intelligent consideration of American educators. The great commercial developments which we are witnessing, and the extension of American influence and power into the unhealthy regions of the tropics and far East, furnish an especial reason why the study of hygiene should from this time receive more attention than has hitherto been accorded it.

The last ten years have been remarkable for the pecuniary encouragement given to education in the United States, especially in the line of classical, professional, and technical education. It is estimated that the amount of money given by individuals during 1901 for universities, colleges, schools, libraries, and similar purposes was over one hundred and seven million dollars, while in the last nine years the amount was over four hundred and twenty-one million dollars. It seems not too much to hope that the educational stimulus which such immense contributions have given to other branches of learning will have some effect in arousing interest in the subject which we are now considering, and that the teaching of hygiene is destined to receive not only better recognition, but

to be ultimately regarded as an indispensable factor in our educational system.

It is believed that American philanthropists whose purses have so often and so generously opened to advance the cause of human knowledge and welfare, have failed to appreciate the opportunities which have lain before them in promoting the cause of sanitation. Every school, college, and university should have a carefully developed course in hygiene. Every parent who sends a son or daughter to these places of instruction has a right to expect that this fundamental subject of life and health shall not be neglected. Competent teachers are needed to instruct the children and youth of the land in the practical business of living wholesome and healthy lives; sanitary engineers are needed to build sewers and waterworks, drain lands, and lay out and clean cities in accordance with modern principles; sanitary architects are needed to build healthy dwellings, hospitals, schools, and factories, so that the great class of people who are unable to look out for themselves shall be suitably cared for; medical officers of health are needed who shall be familiar with the most recent developments of preventive medicine, and who shall be thoroly equipped with the best methods of investigating and removing the causes of epidemics; the family physician should be given that knowledge which, as President Eliot says, shall make him the guardian of his clients in the prevention of disease.

It is difficult to conceive of a more philanthropic use of money than the endowment of chairs of hygiene in universities and colleges where the scientific principles of sanitation can be taught and the useful applications of the subject demonstrated. From such fountainheads teachers, health officers, sanitary engineers, physicians, and investigators would take their inspiration, and the most substantial help would be given to the propagation of the gospel of health.

GEORGE A. SOPER

NEW YORK

VII

PATERNALISM IN COLLEGE ATHLETICS

The dean of the faculty of a certain large university devoted the greater part of his time in a recent autumn to the investigation of the amateur standing of football players in his own and rival institutions. While the discovery of truth is perhaps as difficult in this field as in any branch of science, it is needless to say that from a serious point of view this was a *reductio ad absurdum*. Behold boards of control, athletic committees of the faculty, college presidents, in various parts of the country, engaged in like investigations, in managing by proxy, in wrangling with students, in "athletic" conferences! "What good came of it at last?" in the words of little Peterkin. This does not in any way imply that there has not been great improvement in the tone of intercollegiate athletics, in the middle West especially, in the last five years, if not in the past year. But it is a question open to serious doubt whether this has been due to increased faculty control rather than to the vast improvement in public and collegiate sentiment, due in the main to the efforts of a few honest and fearless critics.

It is a matter of common agreement that one of the most valuable features, many would say the most valuable feature, of the life in American colleges is that life which lies outside the classroom and the definite demands of the curriculum—the self-developed student life. Distinguished graduates of Miami or Virginia openly profess more indebtedness to the literary or debating societies than to the course of study; the discipline of the playing fields, more than that of the college rules, makes captains in industry or war; a friendship formed on the "Fence" or by the "Cannon" proves to be worth more, in the best sense, than a bushel of Greek roots. The free life of the collegiate community makes good citizens. The

freedom and spontaneity of that life should be encouraged in every possible way. College spirit, so called, is sometimes annoying when it leads to hooting the errors of a rival nine at a ball game, or the jostling of Chief Devery at his favorite midnight station, but in general it is one of the proofs of healthy college life, evidence that the student body is united with a common nervous system and circulation of red blood.

One of the important practical contributions of sociology to modern life is the emphasis laid upon the democratic idea, a healthy organism of individual parts, acting by a common will —a view which sweeps away kings and aristocracies, and, we may add, college faculties as supreme mentors in students' affairs. It is a great inspiration to the teacher when the sociologist tells him that altho the child and the youth are in one sense preparing for life, in another and perhaps more important sense they are already in active life and subject to its duties and disciplines. This view of the matter has led to many successful experiments in the lower schools, to actual self-government by the pupils in some cases, to throwing the pupils upon their own responsibility, with the idea of thus increasing interest, giving experience, developing character.

But in many colleges, during the last twenty years, there has been a tendency to greater paternalism in students' enterprises. In many cases there is more or less special supervision over musical clubs, publications, and especially over athletics. This has come about as these activities have waxed vigorous, have handled considerable sums of money, have advertised the institutions before the public. The case of intercollegiate athletics may be taken as the most prominent of these activities, as it is the one which is oftenest subject to faculty control. Is such control a panacea for healing athletic diseases or building up healthy systems of athletics where competition with other institutions is concerned?

Within the institutions more or less physical training has come to be recognized as part of the curriculum, and the proper department and its officers are scheduled in the catalogs. Athletic competitions, within the colleges, such as inter-class

matches, club-boating, field-days, require little or no regulation; unfortunately they do not receive from faculties the attention, official or unofficial, which they deserve.

The legitimate objects of intercollegiate contests may perhaps be reduced to two: first, the maintenance of college spirit or patriotism, and second, the excitement of sufficient interest in athletics abroad to create an active interest at home. While the former motive is no doubt valued by college authorities, there is little evidence that the second—the more important—is recognized. When intercollegiate athletics are overdone, with long periods of training, bidding for promising athletes, drawing on professional schools, general athletic activity at home is killed rather than fostered. A pink-tea boat-race like that which Dr. Holmes described in *A moral antipathy* would encourage a lot more candidating than one of our modern contests "for blood." The intercollegiate contest is not the end-all; the desirable end is the bodily vigor of every student, the love of the open air, and what is implied in the word sportsmanship, a fine flower of culture. But these qualities are not gained on an observation train or in "painting the town red" after a football game—such things make sporting men, not sportsmen—but under the inflexible rule of the Spartans, "Strip and go." The old diurnal perennial football of "Frater" and "Social" at Dartmouth, which the writer chanced to see a few times in his boyhood, was one of the best developments of college athletics he has ever known; is it still continued? The campus was a genuine college playground; no doubt similar conditions have prevailed at other colleges, notably at Princeton at the noon recreation hour.

Unquestionably the development of faculty control has been in connection with intercollegiate contests. Occasionally the bickerings of rival fraternities or financial difficulties, especially in smaller and newer colleges, have led to appeals for faculty support or assistance, but far more often it has been a case of interference on the part of faculties on account of the importance of contests with rival colleges. In many cases the magnitude of the financial operations involved requires that older heads shall counsel, and especially audit accounts—the

writer has been told of one case where a manager made away with $1500 in spite of an audit; but unquestionably this service can be rendered equally well by alumni or individual members of faculties. Irresponsible extravagance must be checked, but deficits often bring salutary repentance for past sins.

In the next place, no doubt the pressure of opinion has, to a certain degree, led faculties to take certain measures calculated to improve the personnel of teams, but it will presently be shown that this is only by use of tests applicable to all students. In cases of athletic irregularities, one very familiar with this subject for twenty years can remember very few cases where faculties have applied the test of amateur standing to their own students; at least until the case was pointed out to them by a rival institution.

The great and preponderating reason why college faculties have taken so much official interest in athletics in late years is because colleges are rivals in business, and athletics are a very great advertising medium. Of course it is not true, as has been said, that the president of a great institution said to his "professor" of athletics, "Get teams together, and winning teams," but the immense value of the free advertising involved in sending out a successful team has turned many good presidents into casuists, and the late Army Investigation Commission could give many faculty committees "points" on getting at the real facts.

Some definite objections to faculty control may be stated. One method of control may be dismissed at once as neither good athletic policy, in the long run, nor even sportsmanlike. This is the method recently prevailing at a few institutions of employing professional managers, even dubbing them "professors." This is frank action, but it lies entirely outside the sphere of college professors to select a football squad or to arrange for a boat race with the State University of Porto Rico. There is just as much reason why the University of Metropolis should employ a Harvard man to manage its students' publications; would such a course encourage spontaneity or responsibility in the student editors? What should we think of it if Oxford University arranged the annual race

with Cambridge thru a don, or a committee of dons, or, more strangely still, should employ a professional coach or manager to conduct the whole affair.

From the faculty standpoint there are three objections to anything like official control of athletics, the loss of time involved, the danger of loss of influence with the student body, the dwarfing influence of official interference with a common and natural student activity. The first may be passed over here; the other two may be considered together. There is real danger of loss of influence with the student body if, as may be maintained, the faculty authorities are interfering with what lies outside of their own proper sphere. But the positive side of this matter is far more important. The spontaneous activities of college life, such as fraternities, publications, musical clubs, athletic associations, thrive best when they grow from the root and when given plenty of light and air. The activities just mentioned, other than athletics, require no special committees of the faculty to regulate them, and athletics are certainly not a hothouse plant. From the point of view of the best development of sportsmanship and character, initiative and interest, faculty control is stifling and often wrong-headed. It is wrong theoretically; and that it is wrong practically may be proved by a comparison of the athletic development and healthy growth at Yale and Princeton on the one hand and, say, any two of the larger institutions where faculty committees are active.

As regards the suppression of professional tendencies, the writer believes that faculty control is absolutely harmful, for two reasons. First, the burden of responsibility for honorable conduct is taken from the student body and laid on the faculty, and the student body thereupon consider it rather good sport to pull wool over the committee's eyes; in other words, the committee are regarded in somewhat the same light as proctors at an examination, and a real attempt on the committee's part to investigate would get the same help from the students as a case of hazing.

Secondly, only about one man out of three in the average faculty can comprehend the simple definition of an amateur,

and will insist on the application of that definition to a given team at a given hour. How often after weary explanations does one hear a worthy colleague, who hasn't an ounce of sporting blood in his veins, say "But yet why should not A earn his way thru college by using his muscles on the football team as B does by doing typewriting in the college office?" Again, Professor Alpha, of the Indigo State University, says "Oh, yes, we are all very particular about amateur standing; every man on our teams has been enrolled and paid his fees"; finally Tutor Gammon, who knows what's what, says, "Time enough for us to stiffen up when those bigger institutions of the State have cleaner athletics." In some old-fashioned institutions Dr. Zero can draw the line sharply between homoousion and homoiousion, but he cannot tell an amateur from a ringer, and the average president of the newer type can be as oblivious of facts and as slow to amendment as a railway president who is summoned before the Interstate Commerce Commission.

Not to enlarge further upon this matter, it may be affirmed that faculty committees on athletics, when active in intercollegiate matters, are pernicious in theory, in that they take responsibility from where it belongs; and even the paradox may be maintained that, if cases of irregularity occur, it is really the faculty which has to be brought to order, not the students. In nine cases out of ten the irregular athlete would be ruled out by the application of the ordinary college discipline as to entrance requirements, payment of fees, attendance, scholarship, etc. But he is enrolled in the School of Oratory and never attends exercises, or is taking one study, or has his entrance examination made easy, or takes several seasons to do one season's work, or action on his case is not reached until the baseball season is over; these cases are familiar to any college officer. There is one use of a faculty committee on athletics here suggested, to hold the faculty itself up to the mark on its treatment of athletic students. A lax morale in the athletics of an institution is an indication of a lax discipline in the whole institution. There is little reason, then, why athletics should receive special official attention from college

authorities, tho they deserve the constant and enthusiastic attention, far more than they receive, of members of faculties as individuals. The ordinary tests suggested above will govern most cases. A moderate requirement of attendance, for example, will prevent long trips.

There is a phase of college athletics on which sweeping and universal faculty action, not temporizing by committees, would clear the air like a thunder shower in August. There is an heroic test of farsightedness, sincerity, and sportsmanship, which some of us, if it is applied in our lifetime, will welcome with a "nunc dimittis." This is the sharp limitation of the ordinary intercollegiate sports to the college departments. Let the professional schools have their own teams if they choose, and arrange their own competitions, but do not mix the good wine of young vigor and leisure with the harsher vintage growing higher up the hill. It is commonly reported that six of the most prominent candidates for the Harvard football team this autumn are graduates of other colleges. There was an athletic meeting at Yale College in the winter of 1879, when Harvard's proposal that students from the professional schools be admitted to college crews was finally accepted for the sake of getting one law-school man into the crew of that year. One likes to think how much difference the opposite decision, with the powerful influence of these two institutions and Princeton, might have made in the history of college sports.

There are one or two arguments in favor of faculty control which must not be disregarded. This is the only solution which has appeared to many intelligent critics of the situation; and the public, or at least the patrons of a college, demand that the college authorities shall prevent scandals. And it may be affirmed that the practice has worked well, that under faculty interference the athletic situation in the colleges has vastly improved. The arguments advanced in this article may be said to be a brief for "the well-known indolence of college faculties" or to be founded upon a one-sided view of the situation. As to the latter point, the only end the college officer can justly have in view is the permanent good of the student; in one sense all questions are to him pedagogical ques-

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tions. From that point of view it would be better that a change, a reform, be worked out somewhat more slowly by building up the system of the patient than rapidly by violent remedies. The principle laid down is that an ordinary student activity like athletics is entitled, for its proper growth and health, to its own brains and nervous system as well as its own muscles. There is plenty of opportunity for members of college faculties, who are commonly graduates of the particular institution concerned and have often passed the "great go" of athletics, to show strong interest, to advise, even to reprove, but not to take over responsibility. As a matter of fact, it is very questionable if faculty interference is an effective check to scandal or a promotor of healthy athletics. The individual influence of a Lehmann or the lamented Newell, the fine courtesy shown especially in some of the international contests, do more to preserve and elevate the ethics of sport than a thousand regulations. The artificial and rickety fabric of athletics in some institutions where faculty control is most prominent, where with great difficulty a second eleven is got together, or a nine disbands in mid-season, goes far to disprove the apparent success of faculty management. And the unnaturalness of the situation can do no good in the long run. It may be said that when once athletics are firmly established on a pure basis, the faculty control may be withdrawn. This will be nothing but a case of high protective tariff upon some pampered infant of industry. The boy "brought up by hand," like Pip, has a very ineffective education. In truth, the average young collegian—already, be it remembered, of voting age—is able to exercise judgment in athletic matters fully as well as he ever can later in life. The college student may have an easy conscience, but he has a keener intelligence of what is the real essence of an amateur, for example, than the average professor. A professor in an excellent college, a thoro sportsman, and for many years officially conversant with college athletics, has said within a few months, "What is the use of all this bother about the amateur standing of our students? Why not admit all *bona fide* students to our teams, whatever their standing as amateurs? Why should the colleges be depended

upon to uphold a shibboleth?" Such remarks, made in seriousness, imply either a dulling of sensibility thru long training in casuistry or a cynicism bred of disappointments, a consciousness that the situation is actually little improved.

Clean and healthy college sport is, in the best sense, a matter of ethics. Ethical virtue is a matter of reason, not of law. A good ethical tone in any community is secured by tradition and education, and is upheld by public opinion and intelligent criticism. Respectability does not depend upon, or follow upon, the size and activity of the police. In athletics let the full responsibility for the good name of the institution rest upon the students. There is plenty of opportunity for the influence of the faculty, as for that of the alumni, as individuals, or when appealed to for advice or support. There is a professor in Yale College who for thirty years has had more influence for the good of athletics than any committee under the sun. This never in his capacity as an officer of the college, but by the weight of his constant interest and high-toned sportsmanship. With a very few men of that character no college needs an athletic committee of its faculty.

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VIII

DISCUSSIONS

IS COLOR-BLINDNESS PREVENTABLE?

Color-blindness appears to have attracted scientific attention for the first time when Dalton in 1794 described his own case. Consequently it was known for years as Daltonism, and many explanations have been advanced to account for it. The defect is an inability to distinguish certain differences of color, the colors most often confused being red and green, tho failure to discriminate between other hues occurs occasionally.

Brewster and Wartmann suggest as a cause of this inability an unresponsiveness to stimuli on the part of the nerve-fibers of communication; Laycock asserts that the imperfect action of the optic nerve results in a cerebral deficiency. Goubert says, "La seule cause vraiment connue de l'achromatopsie est l'hérédité,—l'hérédité, comme Szokalski l'a montré, a lieu par les femmes, par les descendances féminines. Elles en reçoivent le germe de leur père et le transmettent à leur fils. Elles restent indemnes." But he frankly confesses his ignorance of the origin of the defect, of its mysterious preference for his sex; asserting in his interesting treatise *De l'Achromatopsie, ou Cécité des Couleurs* that it is "une anomalie du sens de la vue, congénitale, permanente, et jusqu'ici incurable," and insisting "sur le mot congénital et sur l'absence des lesions matérielles," a view of the subject with which Dr. Jeffries agrees.

Jeffries says in his report to the School Board of Boston, "Color-blindness is not curable by any known methods, and the color-sense does not alter thru life," tho he adduces no proofs of the latter statement. He also, like other writers upon this subject, remarks the extraordinary rarity of the defect in women. "It has been supposed, and even claimed, that exemption on the part of females from color-blindness was due to their

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familiarity with colored objects and materials. This will not, of course, hold with reference to the individual, for the color-sense cannot be changed by practice with colors. Whether generations of color-education have caused this sexual difference is a point to be remembered, as, if sustained, it proves we may begin to eliminate color-blindness from future generations of boys by teaching and practicing their ancestors. It must be remembered that our community and our school children are not different from others. Wherever in the civilized world examinations similar to my own have been carried out by competent observers, the same facts as to color-blindness and ignorance of color-names and their use have been found appertaining to males." He thus assumes, as do others who have tested the color-sense of children, an inherent and congenital incapacity on the part of the present generation of boys to train by practice their color-perceptions, an assumption which, I hope to prove, is not upheld by results where this practice has been systematically given.

Dr. Jefferies examined, some years ago, 27,927 school children in Boston, at a time when no regular color-training was part of the school work. Among the 14,469 boys and young men he found 608 color-blind, or 4.2 per cent. This average also held good of the male students in the Baltimore City College, who were afterward tested by him. Of the 13,458 girls and young women examined by him in Boston he found but 9 color-blind, a proportion of .6 of one per cent. He recommended most earnestly that color be systematically studied, presumably in the interest of future generations of boys, profiting by the slow processes of heredity, since he maintained that "the color-sense does not alter thru life."

Wartmann found 4 men in every 100 color-blind; Kelland, 3 in every 150; Seebeck, 5 in every 40; Prevost 1 in 20. Wilson found the proportion of the color-blind among Edinburgh University students 1 in 30, but among the soldiers of the garrison, 1 in every 17, and asserts that the defect is always *commoner among the untrained.* But all declare that color-blindness is general enough to constitute a real danger under many conditions, and is, under all conditions, a serious

drawback to the usefulness and enjoyment of those unlucky enough to be thus afflicted.

Virchow, in addressing the International Medical Congress at Amsterdam, some years ago, asserted that savage races have no names for many colors and no power of discriminating between them. He had himself tested the truth of this with Nubians and Laplanders, and was inclined to think that colors must be learned. Magnus declares that the power of distinguishing color has increased among civilized peoples since Homer's day, as the great poet's use of color-adjectives will prove. However that may be, it would be an interesting experiment to undertake to show, from their use of descriptive terms of all sorts, the possession by our modern poets of exceptionally keen sense-perceptions.

The Ophthalmological Society of England has conducted examinations for color-blindness in 18,088 cases, finding it present in 4.7 per cent. of the men and in only .4 of one per cent. of the women. Cohn, Magnus, and Pflüger in Germany tested school children, finding an appreciable percentage of them color-blind. Favre, who examined the children in the Lyons schools, believed that congenital color-blindness might be cured by the exercise of the chromatic sense, but his tests were by the unreliable "Méthode d'appellation" employed by Preyer, instead of the "Méthode de reconnaissance," which is the only manner in which the absence of color-discrimination may infallibly be detected.

It does not appear to have occurred to any of these authorities that the color-sense is one thing, and the color-perception quite another, tho Dr. Thompson, who conducted the examinations for the railways of the State of Pennsylvania, uses the significant expression "color-ignorance," and Dr. Jeffries says "Dullness of comprehension and dullness of perception will almost invariably simulate color-blindness." If he had said that dullness of perception *was* color-blindness, psychologically, he would have clearly set forth the truth concerning this mysterious and much-discussed problem, it may be.

Most writers, following Helmholtz, have assumed a triple mechanism in the eye which receives, registers, and transmits

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to the brain the three primary sensations upon which our color-perceptions are based. The three fundamental impressions are assumed to be those of violet, green, and red, and when these are present, the color-sense is considered normal and the individual is said to possess "trichroic vision." When one of the basic components of the color-sense is lacking, the vision is called "dichroic." That constitutes the defect known as color-blindness. This triple mechanism in the eye and its nerve-connections has never been shown to actually exist, and appears to be still a hypothesis awaiting proof. As Ladd points out, it does not explain color-blindness. Hering asserts that six and not three fundamental colors must be postulated, and Wundt insists upon a difference in the processes and not in the retina itself.

But all ignore the purely psychic factor of recognition, which is not a function of the sensory apparatus, but of the brain itself. Dr. Edridge-Green, in his recent work entitled *Color-blindness and color perception,* admits this, but fails to follow it out to its logical conclusion. He says the eye may be normal in every respect, the communication perfect between the sense-organ and what he terms "the perceptive center" in the brain, the entire sensory mechanism complete in each minutest detail, and yet if the "perceptive center" does not properly perform its task, the mind takes no cognizance of impressions duly received and transmitted to it by the peripheral system. He argues that color-perception is, in its essence, "a perception of difference," in other words a recognition of the fact that one color is not another color.

But the perceiving of differences is the work of the higher nervous centers, and is, in its perfection, the result of the careful training of these centers.

Herschel, also, ascribed color-blindness to a cerebral inability to discriminate between colors, but, so far as known, made no attempt to account for this inability. Dr. Goubert, in the treatise already quoted from, says that color-blindness does not belong to the realm of pathology, since there are no lesions causing it. But it does not seem to have occurred to any of these writers that it belongs to the realm of psychology. What are perceptions but the *Besinnungs-Stoff* with which all

our mental science deals, the fundamental psychic facts? To cite two pertinent passages from Ladd's *Physiological psychology:*

"A true theory of the nature and growth of that knowledge of things which comes thru the senses must always be distinctively psychological. For all the factors built, as it were, into the products which we call 'perceptions' are mental; as we have already seen, these factors are sensations and sensation-complexes." And again: "Perception is then, and we can scarcely repeat or emphasize the declaration too much, a mental achievenment."

If then the eye is admittedly normal in cases of color-blindness, and there are no discoverable brain-lesions, the defect is, in all probability, a mental one, a mere lack of the power of discrimination, due to deficient training. It surely would not be reasonable to say with Goubert that we must assign it to "Une cause prédisposante bien établie, le sexe masculin," when all men are not color-blind.

But if color-blindness should prove to be due to a mere absence of training in early youth while the senses are most keenly impressionable, is it not possible to prevent this weakness by giving a systematic culture to the color-sense in childhood? And if it can be shown that boys, so trained while very young, discriminate and appreciate color as intelligently as girls, what becomes of the assertion that color-blindness is virtually a masculine monopoly and is transmitted by inheritance? Is not the inheritance of a defect inexplicable for which no reason, anatomical, pathological, or physiological has ever been discovered?

One hundred men in every two thousand (striking an average between Wilson's figures and Holmgren's) are color-blind, markedly so. The imperfection is rarely discovered by the individual himself, and undoubtedly many with defective color-perceptions live out their lives without becoming aware of all the beauty and glory hidden from them. In most of the cases reported, circumstances alone have led to the discovery of this absence of normal color-recognition, and the governmental tests now instituted in many services have occasioned disagreeable surprises to many unfortunate candi-

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dates for licenses as pilots, locomotive engineers, signalmen, officers in the navy and in the merchant marine. Surely, if training in childhood could have prevented such barring out from careers of usefulness, this training should have been given.

In May, 1877, the English Board of Trade established a system of compulsory examinations to test the color-sense of applicants for mates' and masters' certificates in the merchant marine. The results have been both painful and surprising. The tests are not unduly severe,—in fact, Edridge-Green criticises them for being insufficiently so,—and yet in the twelve years between 1877 and 1890 whose records I have, 5.3 per cent. were rejected for imperfect color-perception. And this in a class of men who, as lookouts and junior officers on forecastle-head and bridge, had for years borne the responsibility of guarding lives whose safety depended upon the correct recognition of colored signals!

A few years ago Dr. Thompson conducted the tests for color-blindness for the Pennsylvania railway systems. He found 4.2 per cent. of color-blindness among the employees on his first investigation. Since then careful examinations into the accuracy of the color-perception of the men have been made by the great American railways, but in one State only are such examinations compulsory by law. The tests are conducted by the companies for their own protection, and are, to judge by the one given by the New York Central Railroad, extremely thoro. No color-blind person could possibly escape detection by that method. It is, with modifications which increase its difficulty, the one devised by Professor Holmgren of Upsala University, and is now in use both on this continent and in Europe.

In these days of enormous transportation systems, to which hundreds of thousands of lives are intrusted daily, and which are operated so very largely in obedience to signals that assume the possession of normally accurate color-perceptions on the part of the operatives, this subject becomes one of vital importance. Dr. Edridge-Green, himself a member of the International Code-of-Signals Committee, asserts that all governmental tests are still insufficient, that the great trans-

portation systems are too lax even now, and that, notwithstanding the modern awakening of interest in the subject, much yet remains to be done before the general public is adequately aware of the imperative need of securing a keen color-sense in those to whom the care of lives is intrusted under conditions rendering necessary such a color-sense. If the prevention of color-blindness in childhood be possible, that would undoubtedly be preferable to even its certain detection in later years with all the hardships which this detection entails.

In case color-blindness is not the result of retinal imperfections, of brain lesions, of some mysterious freak of inheritance which still leaves its *origin* unexplained, if it is not simply a failure to perceive color-differences due to lack of training, why should women be so singularly free from it? Are their perceptions, as a rule, more keen and accurate than those of men? Why should the defect appear in men of all ages, of all classes of society, of all the civilized nationalities; why should masculine eyes of all colors, of all the varying degrees of accuracy and range of vision, as Dr. Goubert points out, display this weakness? Is there nothing in the different training received in the past by the two sexes that would account for this vast difference in the correctness of their color-perceptions?

The instant this question is asked, the reasonableness of an affirmative reply becomes evident. From the days when, as little girls, they chose and assorted colors in their dolls' wardrobes, in their games, their wool-work and embroidery, their patching of silk and cotton scraps, up to the time when, as matrons, they order the affairs of a family, selecting and combining the tints of draperies, carpets, curtains, of fabrics for personal and household adornment, the color-sense of women is trained and exercised. It does not "rust unburnished" as does that of their brothers. And that disuse is the true explanation and cause of color-blindness in men of otherwise normal vision is indicated, if not fully proved, by the fact that little boys show no traces of this weakness when they are taught as their sisters are.

The thousands of boys in our city's primary schools receive

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now precisely the same kind of color-training that the girls receive, with precisely the same results. This is the testimony of my own experience as a teacher, and it agrees with that of my associates in this work. Boys are not color-blind; that is, there is no inherent, no congenital defect which makes it impossible to train them in the most delicate discrimination of color. Much is expected of them in color-study, much that no experienced teacher has any difficulty whatsoever in obtaining from large classes of boys. I quote the course of study:

First school year, first term: Study of the spectrum; recognition and naming of the six standard colors; use of colors in arrangements.

Second term: Spectrum colors, and black, white, and gray; color tests and harmony.

Second year, first term: Color tests and harmony; tints and shades in design.

Second term: Color tests and harmony; tints and shades in design in linear and radial patterns.

Third year, first term: Color tests and harmony; tints, shades, and hues of three standards, in designs.

Third year, second term: Color tests and harmony; tints, shades, and hues of six standards, in designs.

Fourth year, first term: Color harmony; colors, and hues, tints, and shades in designs.

Second term: Color harmony; colors, hues, tints, and shades in designs; the grays.

Fifth year, first term: Color harmony; the grays, tints and shades; designs illustrating strict conventionalization.

Fifth year, second term: Color harmony; colors, hues, tints, and shades in designs.

Sixth year, first term: Color, continued as in previous grades.

Second term: Advanced studies in harmony and design.

Dominant, analogous, and complementary harmonies are used, the intermediate colors are mixed, pleasing backgrounds are washed in, colors are toned down, heightened, "grayed," etc., in a way entirely incompatible with the assumption that there can be any congenital deficiency in the color-sense of a large proportion of the boys. The testimony on this point is unanimous—there is no sex-difference in ability to discriminate, combine, and employ colors, when instruction in this branch is begun young and conducted systematically.

I have myself recently examined 580 boys in one of our

primary schools where the color-sense is carefully trained along the lines made mandatory by the course of study. Their ages ranged from six to twelve years. Among them all I found no case of color-blindness, tho there would have been 24 such instances had the proportion of color-blindness given by Dr. Jeffries held good. On the contrary, the vast majority of the little lads displayed a delightfully acute appreciation of color-values, discriminating most correctly between the delicate tints and shades, and apparently enjoying thoroly their lessons in color. Their delight in the brilliant hues would have convinced me, had I needed to be convinced, that it is not only unwise, but unkind, to starve a child's color-sense. One child, nine years old, was found to manifest what appeared at first to be a typical case of color-blindness, for in matching the wools, he placed the greens and the reds together. As Edridge-Green points out, the degree of luminosity seems to constitute a standard for those whose color-perceptions are dull; this child placed the dark-reds with the dark-greens, and the light-reds with the light-greens. He is a slow child, slow in his movements, slow in his mental processes, requiring patient and kindly teaching, but he masters all his tasks when time enough is given to him. He has now had a few weeks of special instruction in color, with the most gratifying results. He no longer confuses the red with the green, nor the blue with the violet, as he did at first; he is no longer misled by the luminosity of the tones, and it does not seem unreasonable to claim that he is, in his one small person, a proof of my contention that color-blindness is the result of insufficient color-training in childhood, and that it is preventable if the instruction and guidance of the color-sense begin in early youth.

In making these tests the Holmgren system, employing wools of varying tones, was used, supplemented with colored papers, splints, and the use of an eighteen-scale spectrum.

It may be possible, of course, that there exists a certain congenital keenness of color-perception in favored individuals which enables them to dispense with training, but, in view of the evenness of the results of my investigations, I am inclined to believe that color-discrimination is wholly a matter of

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practice. To be sure, this practice is not necessarily to be had only in the classroom. But I believe if the impressionable days of early childhood, the period that Halleck aptly terms "the brief morning of plasticity," be passed without this training, the starved color-sense will remain thruout life dulled and deficient. Donaldson tells us cheerfully that "our latent capacities as individuals are far beyond our regular achievements," but in spite of this assurance the question will arise, "Does there not come a time when the "may be" passes into the "might have been" for us?

This matter of acquired color-blindness, therefore, assumes an increased importance in view of the fact that it confronts us with the possibility that there may be other perceptive weaknesses, developed in later life, and dependent upon and caused by the absence of proper sensory training in the impressionable days of childhood. The entire mental structure is admittedly conditioned by the keenness of sensory impressions and the accuracy of the perceptions based upon them. To quote three authorities upon this very point: "Every cerebral element is subject to the educating influences of those sensory nerve-fibers with which it is anatomically connected." —Hering. "Everywhere where there is development, later events are conditioned by earlier."—Höffding. "The highest intellectual development can be no firmer than the sensory foundation."—Halleck.

Does this delicacy of color-discrimination, developed in little children by careful instruction, and far surpassing the color-perceptions of adults who have lacked this training, hint to us that there may be for all the senses a brief blossoming period in extreme youth? Do the latent capacities of which Donaldson speaks remain latent—and possible—thruout life, or does the opportunity of perfect sensory development for the individual vanish forever with the passing of childhood? It may well be that the vital importance of scientific systematic sensory training for children as the only true basis of later intellectual education is yet to be fully appreciated.

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REVIEWS

History of the Central High School of Philadelphia—By FRANKLIN SPENCER EDMONDS, assistant professor of political science, Central High School, and master of archives of the Associated Alumni, Philadelphia: J. B. Lippincott Company, 1902. 394 p. $2.00 net.

The narrative of the Central High School, as related by Mr. Edmonds, is an instructive history of the growth and development of a great public school. The school was first opened in 1838, and its original organization under the able leadership of the broad-minded great-grandson of Benjamin Franklin—Alexander Dallas Bache—is an important chapter in American educational history. Fresh from Europe and saturated with a knowledge of German schools, Bache planned an American high school which should at once be a combination of the German gymnasium and the German real-school. Had the school been allowed to continue to develop along the broad lines laid down for it by Bache, its history would have been very different to tell. Under the administration of John S. Hart, the standard set by Bache was at first continued and raised, so that, in 1849, the State legislature bestowed upon the city controllers of education the authority to confer academic degrees in arts upon the graduates of the school, and invested them with "the same and like power to confer degrees, honorary and otherwise, which is now possessed by the University of Pennsylvania." But the school later fell on evil days. It grew or was driven away from its original ideals. The study of the languages was curtailed, Greek and French were dropped from the course, and for twenty years the students were offered a single strait-jacket practical course, that began nowhere and ended in the same place. In the last fifteen years, under the broad-minded and scholarly stimulus of Mr. Samuel B. Huey, chairman of the high-school committee, the school has been restored to something of its pristine promise.

This school from its inception has been an institution celebrated in its teaching force, unique in its equipment, and for a

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school of its character pre-eminently distinguished in its graduates. It is a matter of no small moment that a public school should have had identified with its teaching force men of the stamp of John S. Hart, Edwin J. Houston, E. Otis Kendall, Rembrandt Peale, John Sanderson, Franklin Taylor, Robert Ellis Thompson, Elihu Thompson, Albert H. Smyth, and Enoch C. Wines, to mention but a few. Moreover, the astronomical observatory, which from the beginning to the present day has been maintained as a distinctive feature in the organization and equipment of the school, is unique in public education, perhaps the world over. "The erection of this observatory," once said Professor Elias Loomis of the original equipment, "formed an epoch in the history of American astronomy." Out of this observatory, it is not too much to say, grew the Lick Observatory, and the Yerkes Observatory of the University of Chicago; in the one case, thru the impulse of a high-school graduate, Professor George Davidson, and in the other, thru the generosity of a high-school graduate, Mr. Charles T. Yerkes, both of whom received their first interest in astronomy in the observatory of the Central High School. The real work of the Central High School, however, has been best shown in the character and work of its graduates. In this school have been educated such men as Hon. Charles F. Manderson, Senator from Nebraska; Hon. Robert E. Pattison, twice governor of Pennsylvania; Ignatius Donnelly, Henry George, Frank R. Stockton, the novelist; George Alfred Townsend, the distinguished journalist; James B. Sword and William T. Richards, the noted artists; Elihu Thompson and Edwin J. Houston, of electric-light fame; President Thomas M. Drown of Lehigh University; George Davidson of the United States Coast Survey; Rev. Chester D. Hartranft, president of the Theological Seminary of Hartford; John G. Johnson, the lawyer; Dr. W. W. Keen, president of the American Medical Association; J. P. Green and Edmund Smith, vice presidents of the Pennsylvania Railroad Company; John R. Fanshawe, secretary of the Lehigh Valley Railroad Company; Joseph S. Harris, president of the Philadelphia and Reading Railroad Company; Joseph W. Drexel, the banker; Clement A. Griscom, of the International Navigation Company, and

nine of the Cramps, of ship-building fame. The chapter on the alumni of the school is an impressive record of the immense service which this school has rendered to the nation generally, and particularly to the city of Philadelphia, many of whose most prominent citizens in political, professional, industrial, financial, scientific, and literary life, have been educated almost wholly in this school.

All these facts Mr. Edmonds sets forth with much detail in a volume which is undoubtedly a useful contribution to educational history in Pennsylvania. It is a book which will be read with pleasure and pride by the graduates of the school, and with profit by all students of public educational development. It must be added, however, that the book has in it disappointment for both these classes of readers. Not a few of the former who read Mr. Edmonds's work critically will not be disposed to praise all the things which Mr. Edmonds praises, nor will they share in Mr. Edmonds's regret that the school in its modernization has lost so much of what was good and sound in the past, simply because they know, as matter of fact, that even " under the direction of executives who knew little of the noble traditions of the past," the school has been rescued from its period of deadening descent, and started on a course which promises, not only to realize the best traditions and tendencies of the school in the past, but to carry them forward enlarged and enriched. Mr. Edmonds should have stuck religiously to his determination to end his history with the *régime* of President Riché. What he says of the school as it exists to-day is wholly inadequate, and so misleading. The general educational student, on the other hand, will be disappointed that Mr. Edmonds' book is so distinctly reminiscential. Mr. Edmonds has written a pleasant book, but the real history of the Central High School, and its part in the struggle for higher education at public expense, remains to be written.

There should be added a word of praise for the publishers. The letterpress, illustrations, and general make-up of the book are exceptionally good, and add considerably to the dignity of the volume.

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NOTES AND NEWS

The English Education Bill

Despite the fact that the English newspapers keep harping upon the fact that "education is proverbially a dull subject," their columns are filled with editorials and letters which discuss the pending Education Bill from every conceivable point of view. It is a most encouraging sign that nothing has so stirred the masses of the English people since the Reform Bill agitation, Home Rule excepted, as this controversy over the provisions of Mr. Balfour's Education Bill. The Home Rule controversy, while both bitter and prolonged, may yet be surpassed by the Education Bill controversy. Under such circumstances as these, students of education in America should spare no pains to understand the provisions of the Bill, complicated tho they be, as well as the political, social, and educational tendencies which they express. A correspondent of the London *Times* furnished that newspaper on September 4 last with an analysis and criticism of the bill which we are glad to be able to reproduce in full:

Now that the dust of sectarian and political controversy has subsided for a time, it is possible to see more clearly the educational issues involved, and to examine the Government bill as an educational measure. What will be the actual or possible effect, educationally speaking, of the clauses already passed thru committee, assuming that they eventually become law?

I Administration—Before dealing with the bill itself we may notice the administrative changes of which it forms a part; changes far-reaching and important, which indicate a gradual awakening of the national conscience to the importance of education as a branch of public administration. Thirty-four years have passed since the Royal Commission on Secondary Education, presided over by Lord Taunton, of which the Archbishop of Canterbury is now the sole survivor, suggested as essential to efficient administration a central authority under a minister of education, with local provincial boards. This recommendation, repeated and elaborated by Mr. Bryce's commission in 1895, is at last in the way of being realized. The constitution of local authorities for education is the most vital feature of the bill now before Parliament; and quite recently, among

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the Ministerial changes consequent upon Lord Salisbury's retirement and Mr. Balfour's accession to the Premiership, educationists have hailed with satisfaction the appointment of Lord Londonderry as Minister at the head of the board of education, with Sir William Anson, M. P., as parliamentary under-secretary. The board of education has now for the first time an independent existence as a department of state. Its president is, and it may be hoped always will be, in the cabinet; while its first parliamentary under-secretary is a man of proved capacity, educational experience, and conciliatory manner—not an unimportant qualification in the present temper of the House of Commons and the English people toward educational questions. The omens are favorable for a real advance. A strong and efficient central authority, with local authorities surveying the whole field of education over given areas, and a consultative council of experts—such has been for years the administrative ideal of those who have cared seriously for education. It is to the credit of the present Government that, after a good deal of hesitation, and more than one failure, they are placing this ideal within our reach. The consultative council is at work; the central authority is assuming definite shape; the local authorities will come into being if the present bill becomes law.

By clauses 1 and 6 of the bill, already assented to in committee, the council of every county and county borough, of boroughs with a population over 10,000, and of urban districts over 20,000, is to be the local education authority for its area, and the rating authority for educational purposes. Clause 12 provides that it shall act, except for raising a rate or borrowing money, thru an education committee, a majority of which must be appointed by the council, but not necessarily, as the clause now stands, members of it. The scheme constituting the committee (to be approved by the board of education) must also provide

> For the appointment by the council, on the nomination, where it appears desirable, of other bodies, of persons of experience in education, and of persons acquainted with the needs of the various kinds of schools in the area for which the council acts.

This clumsily drawn proviso invites amendment from the educational point of view. It should be made clearer that these committees must in any case contain a proportion of educational experts; and it might be better to name a *minimum* proportion—not less than one-fourth, or one-fifth, of the whole number. As to the nomination by other bodies "where it appears desirable" (does this mean to the local or to the central authority?), surely it were better to say one thing or other, and either enjoin such nomination or leave it alone. Mr. Bryce's commission suggested that the majority of a county education committee should be appointed by the county council, and that of the remainder one-third (about one-sixth of the whole) should be nominated by the education Minister, aided by the advice of the "educational council" (*i. e.*, the "consultative committee," as it is now called), the rest being co-opted by the members already chosen, with the proviso that "several ought to be taken from persons actually or recently engaged in teaching." The presence of actual teachers on such a body is of doubtful value or importance. "Persons of experience in education" or "acquainted with the needs of the various

schools" is probably a better and more workable condition. But some more definite instruction, on the lines of that given by Mr. Bryce's commission, would help rather than hinder the county and borough councils in the formation of their education committees. It is of vital importance that the right men should be chosen at the outset. In any case, Mr. Balfour might well consider the nomination of a certain number (say about one-sixth) of every such committee by the central authority.

Amendments are sure to be moved with the view of insuring that the majority of the education committees shall be not only appointed by, but actually members of, the local authority, and therefore popularly elected. It is possible that, in view of the outcry about popular representation in the spending of public money, Mr. Balfour may give way on this point. But, inasmuch as the supreme financial control will rest with the council itself, a popularly elected body, he may feel justified in adhering to his contention that this is a sufficient guarantee of popular control. In the natural course of things a council will appoint a majority of its own members, and can, if it pleases, introduce others (if there remain any such) as "persons of experience in education." But, if there is a difficulty in finding enough members of the council who are interested in education, the greater freedom given by the clause as it stands may be, educationally, an advantage, and will not really infringe the principle of popular control. That principle is being ridden hard by opponents of the bill, but not on educational grounds.

II Secondary Education—In the heat and turmoil of religious strife over the voluntary schools it has been almost forgotten that the original *raison d'être* of an education bill was the unsatisfactory condition of secondary education, and that in this particular bill as first drafted the duty actually imposed upon the new local authorities was the care of secondary education, it being left optional to them to undertake the charge of elementary education. It is still the view of some competent educationists—Mr. Arthur Acland, for instance—that this was the right line to take, and that the organization of secondary education is, from an educational point of view, the most urgent question. But the British public does not take readily to the educational point of view. It is much more interested in the religious and political disputes which have arisen over elementary education thru the rivalry between board and voluntary schools. And, as the condition of the voluntary schools was confessedly a matter of urgency, there arose such an outcry against giving any option to local authorities whether or no they would deal with elementary education that this option has disappeared from the bill. One effect has been to shunt the whole train of public interest and discussion from the secondary to the elementary line, and so far to justify the view of those who testified against the attempt to include secondary and elementary education in a single bill.

What, however, does the bill do for secondary education? It creates possibilities, it establishes machinery for future action, it suggests—rather dimly, it must be admitted—lines of activity to the authorities which it has created. Whether it effects much improvement or not will depend largely upon the courage, the public spirit, and the intelligence of those in whose hands it places the control of education. If the new local authorities

have the wit to see, and the enterprise to meet, some of the most urgent needs of secondary education for the sons and daughters of the middle and lower middle classes, there is a wide field of usefulness open to them. Mr. Bryce's commission, after setting forth most convincingly the deficiencies and general want of system in the existing provision for secondary education and the urgent need for local authorities to deal with it, arranged the functions of such authorities under four heads:

1. The securing a due provision of secondary instruction.

2. The remodeling, where necessary, and supervision of the working of endowed (other than non-local) schools and other educational endowments.

3. A watchful survey of the field of secondary education, with the object of bringing proprietary and private schools into the general educational system, and of endeavoring to encourage and facilitate, so far as this can be done by stimulus, by persuasion, and by the offer of privileges and advice, any improvements they may be inclined to introduce.

4. The administration of such sums, either arising from rates levied within the local authority's area, or paid over from the national exchequer, as may be at its disposal for the promotion of education.

The commissioners, while trusting that the measures recommended by them might stimulate private enterprise to supply some of the deficiencies noted, expressed a decided opinion "that private enterprise cannot be entirely relied on, and that the duty of seeing that an adequate supply of secondary instruction is provided must be thrown on a public authority." This duty, they consider, should be imposed by statute on each local educational authority.

This has now been done under clause 2 of the bill. As originally drafted, this clause only provided that the local education authority may supply or aid the supply of education other than elementary—a futile provision, characteristic of the national and Parliamentary unwillingness to grasp the nettle firmly. As amended in committee the clause now provides that "the local education authority shall consider the needs and take such steps as seem to them desirable, after consultation with the board of education, to supply or aid the supply of education other than elementary (including the training of teachers and the general co-ordination of all forms of education)." This is a great step gained, and may be the starting-point of far-reaching reforms in our educational system. Educationally, it is of vastly greater importance than the "management clause" (7) so hotly disputed. Whichever way it is ultimately settled, that clause will have but slight educational effect. But clause 2 opens the door to that organization of secondary education of which Matthew Arnold prophesied in the wilderness half a century ago, and which has ever since been a chief article in the creed of genuine educational reformers. It lays for the first time upon a definitely constituted public authority a definite duty in regard to secondary education, the provision of which has hitherto been left to private enterprise, with no supervision, no system, and no aim other than commercial. It translates into fact the recommendations of the Royal Commission above referred to; and if at present the central authority—*i. e.*, the board of education—is not sufficiently empowered to

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see that the local authority fulfills its duty, there should be no difficulty in making this power statutably clear.

Two expressions in clause 2 as amended deserve notice as specially welcome from an educational point of view—viz., the "training of teachers" and "the co-ordination of all forms of education." That teachers should be trained for their profession is an axiom in all countries where education is taken seriously. In this country, where elementary education alone is seriously organized, elementary teachers alone have as yet received this necessary equipment for their work, and even for them the appliances for training, however good in quality, are sadly lacking in quantity. For teachers in secondary schools the need of some training has only in the last few years been recognized at all, and is just beginning to be provided tentatively, by voluntary co-operation of the Universities with some of the more enlightened headmasters of public schools. More training facilities for elementary-school teachers and the creation of a system of training for teachers in secondary schools are among our chief educational needs, and are recognized as such in this bill. In the reports upon the various educational systems of the United States recently issued by the board of education we see that the special training of teachers is always provided for, "normal" or training schools being included in the arrangements of each State or city. The Americans are a practical people, with a strong belief in their schools as a training ground for good citizenship. They feel that much depends on the teacher, and they are resolved that he (or she, a majority of their teachers being women) shall be as well qualified as possible for this great service to the State.

Into the financial provisions of the bill with respect to secondary education it is not necessary to enter here. They are details capable of modification as need arises and as the work grows under the hand of the new authorities. Those who fear, as some do, that a twopenny rate will be utterly inadequate may take heart from the working of the Welsh Intermediate Education Act. The county education committees under that Act have found that, in addition to the "whisky money" and educational endowments, a county rate of a halfpenny in the pound, with an Exchequer grant of equivalent amount, has enabled them to do much for the provision of secondary education. With regard to the "religious difficulty," happily much less acute in secondary than in elementary education, the application of the "Cowper-Temple Clause" to schools provided by the local authority seems reasonable in itself, and may help to keep the difficulty at arm's length—a result much to be desired on educational grounds. We do not want religion banished from secondary any more than from elementary schools; but we do want to keep out the "religious difficulty."

III Elementary education—With the actual details of the education given in our elementary schools the bill is but slightly concerned. It is, as regards them, an administrative rather than an educational measure. The great battle in Parliament is over questions of management and control; and clause 7, in whatever form it finally emerges, will have no perceptible effect upon the education given in the schools, except so far as good management and efficient control may affect its quality. If Mr. Balfour could have seen his way to a larger element of popular represen-

tation on the boards of management, the bill might have been a step in the direction of stimulating greater popular interest in the schools. The want of such interest in England, as compared, for example, with Scotland, Switzerland, or the United States, is half the explanation of our educational inferiority; and from this point of view the introduction of more representatives of the parishioners upon the local management of schools ought to be welcomed even by the clergy, whose "one-man" management has in many cases been not sought by, but forced upon, them thru the apathy of their neighbors. If it increases popular interest, it will indirectly make, as time goes on, for educational efficiency. But, so far as any direct educational effect is concerned, the constitution of the local committees of management is of very slight importance. The controversy that rages round clause 7 is religious and political, but hardly educational.

Yet the bill, if it becomes law, should have very important educational results. Chief among these is the placing of all schools under the same financial conditions, thus getting rid of that worst anomaly of the "dual system," the "intolerable strain" of the unequal competition of voluntary schools with limited means against board schools drawing at their own discretion from a bottomless purse. The result of this anomaly was that the voluntary schools, educating half the children of the country, were inferior in staff, in buildings, and in equipment; an inferiority which could not but affect the education given in them. Only national indifference combined with religious intolerance could have endured this state of things even for a generation. As to religious intolerance, there were faults on both sides; and it was perhaps as much due to Churchmen as to Nonconformists that no *modus vivendi* had been found possible. There was much allowance to be made for the clergy. They had borne the burden of public education before statesmen would touch it with one of their fingers, and they were contending for a great educational principle, that this education should rest upon a definitely religious basis. They still contend for this in the schools belonging to them, tho willing, in return for increased public aid with a view to educational efficiency, to accept a measure of public control. Their attitude is not unreasonable. But what is to be said of those so-called advocates of progress, those stanch upholders of Liberalism in all its forms, who, because the great majority of denominational schools are connected with the Church, whose ascendency they detest, put educational considerations aside and set themselves to discredit and, if possible wreck a bill which, in the words of a recent correspondent to the *Times*, "ought to mark the beginning of a new . of educational progress"? To an impartial observer, anxious a' .e everything for educational efficiency, it is no longer the clergy of the Church of England or the Conservative party, but the chosen leaders of Nonconformity and the exponents of Liberalism, who desire to set back the clock. Is it too much to ask them to forego the fascination of a party cry in the cause of educational efficiency? Is it too much to ask that, in the interest of the children (too little regarded by wrangling politicians) and for the well-being of the nation, all true statesmen and all who really desire the improvement of national education will unite to secure the passing of a bill, which, if not perfect in all its parts, is, educationally, a real

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step forward? In its provisions as regards secondary education it is the first attempt, good as far as it goes, to carry out the carefully considered and most valuable recommendations of the two Royal Commissions that reported in 1868 and 1895. In its provisions for uniformity of administration of elementary schools by local authorities taking cognizance of educational requirements over sufficiently wide areas, in the closure which it applies to the financial inequalities of the existing dual system, and in its assertion of the principle that public education should not depend upon private charity, it marks for elementary education the greatest step in advance since the Act of 1870, and may well be the beginning of a new era in educational efficiency.

Lake Placid Conference on Home Economics

The Lake Placid Conference on Home Economics held its fourth annual session September 15-20. This conference is devoted to the scientific and sociologic study of the home, the aim being to concentrate the best thought of leading workers along special lines in order that the discussions may count as distinct progress in some limited part of the field. Different specialists are invited each year as the subjects discussed vary, but a nucleus of the same workers controls the permanent policy and development of the Conference.

The special subject for consideration this year was the family in its relation to society. Dr. Thomas D. Wood of Columbia University gave an address upon "Some controlling ideals in the family life of the future." He showed the application to family life of the principle of "projected efficiency." When human beings and families rationally and intelligently subordinate their own interests to the welfare of the future, the world will have a more effective and enduring type of family life than exists at present. This can only be accomplished by the development of controlling ideals which are supported, not only by reason and intelligence, but by ethical impulse and religious motive.

Dr. Charles R. Henderson of the University of Chicago, altho unable to be present, sent a paper on "Social conditions affecting the law of family life." The paper recommended tenement-house legislation for the purpose of saving and purifying the monogamic family by preserving for its environment the sacred privacy of a home; child-labor legislation, and the establishment of juvenile courts for the protection of the

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child;—more stringent laws for the purpose of enforcing marital responsibility, and the inauguration of a system of government insurance for workingmen in case of accident, sickness, invalidism, and old age, for the purpose of reducing those temptations to neglect of marital duty which arise from want.

Miss Caroline L. Hunt read a paper on "Public and private industry," in which she pointed out the great significance to family life of the revival of the handicrafts, and the movement toward centralization in the work of food preparation. The former brings to woman work for hand and brain that can be carried on without interfering with home-making, while the latter gives her leisure in which to become a specialist in her work and to learn its relation to the general social economy.

The members of the Conference adopted resolutions in which they expressed the belief that the time had come when the subjects related to the home should receive larger recognition in the curricula of colleges and universities. In view of the increasing demand for such instruction, and in view of the fact that such instruction is of equal educational value with that in other subjects now included in college courses, they urge that the heads of the higher institutions of learning meet the demand either by introducing new departments or by extending already existing departments, such as those of chemistry, sociology, and economics, in such a way as to make them of more direct benefit in the study of home problems.

Mayor Low on the New York Schools

For several months past Mayor Low of New York has made public a series of instructive and interesting "talks" on various departments and phases of the city government. These "talks" have been widely read, when published in the daily newspapers, and that on the public schools, lately issued, is reproduced here in full both for record and that it may reach the readers of the REVIEW in other parts of the country.

Most problems that are simple upon a small scale become difficult if the scale is magnified. In Maine, where I have been in the habit of spending the summer, there is an island containing a population, young and old, of forty persons. Upon this island there is a small schoolhouse. As the population is practically stationary, the school problem was solved on its physical

side for a long term of years by the erection of this building; on its educational side the appointment of a school-teacher, year by year, is all that needs to be done. When it comes to providing school buildings for five hundred thousand children, however, and an educational system that will produce satisfactory results on so large a scale, the problem becomes immensely difficult—yet nothing has happened, except that the multiplication table has come into play.

The most striking feature in the school situation, at the moment, is the fact that there are 67,590 children in part-time classes this year; against 58,123 last year. This was at the opening of the school year. There were, however, at the end of September last year, 5068 children, in addition, entirely out of school. This year there are no children out of school who are six years of age and over. It is clear, however, that the increase of sittings has not equaled the growth in the demand. The following figures throw light upon this situation. Just prior to consolidation large appropriations were made in old New York for school buildings, with the result that 15,000 seats were added to the supply in 1898. In Brooklyn, however, this seems not to have been done; with the result that only 400 seats were added to Brooklyn schools in that year.

The bond issues authorized for school purposes by the last Administration were as follows:

1898	None
1899	$7,683,640
1900	3,500,000
1901	3,850,000
Total	$15,033,640

The actual expenditures made in these years were as follows:

1898	$2,275,583.04
1899	6,360,718.35
1900	5,248,310.34
1901	4,477,740.57
Total	$18,362,352.30

The excess is due to money on hand from earlier bond issues. For 1902 the present Board of Estimate and Apportionment has authorized the issue of bonds for school buildings to the extent of $6,000,000.

The seats added in each year, since consolidation, have been as follows:

	Manhattan and Bronx.	Brooklyn.
1898	15,000	400
1899	13,800	7,224
1900	8,700	12,664
1901	17,890	11,054
1902	7,770	6,575
Total	63,160	37,917

Two inferences are to be drawn from these figures. First, that it takes two years, ordinarily, for bond issues for school buildings to produce their full effect upon the sittings. Thus, the large issue of bonds in 1899 added 29,000 sittings in 1901, while the small issue of bonds in 1900 added only 14,000 sittings in 1902. The second inference is that, since 1898, the school moneys have been fairly divided, as between these two boroughs, on the basis of population; if anything, the division has favored Brooklyn.

The greatest number of part-time classes in Manhattan and the Bronx are on the East Side, in the section of the city bounded by the East River, Catherine Street, the Bowery and Third Avenue, and East Twelfth Street. On examining the statistics of the last five years, the explanation is self-evident. By Mayor Strong's Administration, provision was made for this quarter of the city which resulted in adding, in 1898, 10,750 sittings to the school accommodations there. Since then, the additions of seats in this quarter have been as follows: 1899, none; 1900, 1080 sittings; 1901, 1600 sittings; 1902, 1000 sittings. In other words, very little provision has been made for this part of the city during the past four years. The present board of education is hoping to add 8000 seats in this section next year, and about 17,000 seats the year after that. As I have said, it takes two years to realize the full effects of large appropriations.

In Brooklyn, on the other hand, the shortage of sittings is much less localized, tho it is most acute in the old Sixteenth Ward. This is partly due to the use, during recent years, of available funds for the erection of school buildings in new sections of the borough, in advance of the need. I cannot escape the conviction, however, that Brooklyn must have been less adequately supplied with schools at the time of the consolidation than the old city of New York; for since 1898 there have been 37,517 sittings added in Brooklyn, against 48,160 in Manhattan and the Bronx. However that may be, the greatest number of children now on half-time is in Brooklyn, and the schools must be placed where the children are. The present board of education is hoping to add, for the whole city, 33,000 sittings in 1903, and 32,000 or more in 1904. Of these 24,000 will be in Brooklyn, and 30,500 in Manhattan and the Bronx.

In this discussion I have not gone into details as to Queens and Richmond, as it seemed to be unnecessary. There is a certain deficiency in parts of Long Island City; but that, also, is being made good.

In administering the funds for new buildings, it is highly important that the board of education give great attention to securing new sites for buildings ahead of the actual need. I do not mean simply in the new parts of the city, where the growth can be foreseen, but also in the crowded parts of the city, where the growth is just as real, altho it is less apparent. When sites can be acquired at private sale, the process is not a long one; but this, unfortunately, is seldom possible. The process of condemning property for a school site, on the other hand, is, at best, slow, and sometimes it takes as long as a year. Altho the board of education was given $6,000,000 for school buildings in the early part of this year, it has found itself utterly helpless promptly to relieve the congestion in Brooklyn, because few sites were at command in the parts of the city where the pressure upon the schools is greatest. The delay involved in acquiring

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new sites means that this pressure cannot be thoroly relieved in less than two years; whereas it might have been largely relieved in one, if the sites had been at command.

This whole subject, it must be confessed, is one of very great difficulty. When the board of education has done its best, it is not always possible to foresee where the growth of population will be. It is also a perplexing feature of the situation that there may be seats enough in the schools as a whole, and yet a very great deficiency in localities, here and there. This is to some extent the situation at the present time. This is due to the fact that the vacant sittings are in buildings so far removed from the centers of congestion as not to be available for their relief. The fact, however, serves to illustrate the statement that the city must provide more sittings than the whole number of school children, in order to have seats enough in all places.

It seems singular that, in Manhattan, the principal deficiency is to be found south of Houston street. This probably signifies that the process of changing old school buildings, which were well enough adapted to the conditions ten years ago, has not kept pace with the very rapid increase in population in that quarter during the last five years. On the lower west side, on the other hand, schools that were at one time overcrowded have now empty seats.

This whole subject is so large and so complicated that it requires the most careful study by the board of education from other points of view as well. It ought to be said that the new board of education has taken one step of great importance in the right direction. Heretofore, principals have ceased registering pupils when the school buildings were full. This year they have been instructed to register—that is, admit—every pupil over six years of age who applied. As many as possible were admitted to full-time classes, and the rest to part-time classes. It must, therefore, be said that this year, for the first time, the board of education knows how many children are not fully provided for. Indeed, as a result of this policy there are now no children known to be out of school who are six years old or over, tho there are many in part-time classes. It is possible, therefore, that the increase in the number of half-time classes is apparent rather than real; that is to say, there may have been more children out of school last year than was known to be the case. A few years of experience under the present method will give valuable information on this head. This system also takes the place of a school census; and gives information as to where schools are needed that is really more trustworthy than the results of a census.

Twenty years ago, when I was Mayor of Brooklyn, there were precisely the same sort of difficulties to be contended with. At that time I urged the board of estimate to decline to make appropriations for high schools until there was room enough at the bottom. That is a remedy not infrequently suggested now. I refer to it because the result of that policy, which was actually adopted for a time, was highly disappointing. Graduations from the highest grammar grades almost entirely ceased, and the orderly movement of children from grade to grade was everywhere checked. Principals all over the city kept their children in the higher grammar grades

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without promoting them, so that they might get the additional instruction which they desired. In other words, this policy ran against an instinct of human nature that has to be taken into account. It was found to be practically impossible to induce teachers to deprive bright students of two or three years of advanced study, that they were competent to take and which their circumstances permitted them to enjoy. By reversing this policy, and building a high school, the normal flow of children thru the public schools was resumed and has never since been checked. The high schools, therefore, in meeting this desire, increase, rather than decrease, the capacity of the schools of the lower grades. No remedy for the present troubles, therefore, is likely to come from a failure to enlarge the high-school system as may be necessary.

On the other hand, precisely as children go for long distances to the different high schools of the city, so it would seem to me that children of the higher grades in the grammar schools can properly be asked to go a considerable distance to a grammar school. The younger children must, of course, be taken care of near home. It is worth considering whether the creation of grammar-school districts of convenient size, and the concentration of the grammar-school pupils in those districts in a few buildings, may not be worth while. I submit the suggestion for what it may be worth, without having any distinct opinion as to its value. Similarly, it may be worth while to consider, in a systematic way, the proposal which President Burlingham has frequently urged, that the older grammar-school children be furnished transportation, where that is practicable, to schools at a distance where vacant seats may be available.

It is fair to the present board of education to remember that the system under which the schools were being cared for was radically changed on the 1st of February. At that time an entirely new board of education took control. Progress has already been made, in many directions, that justifies the hope that the conduct of the schools under this new system will constantly grow in efficiency. It has already put an end to useless squabbles among the boroughs; and it has brought about uniformity in educational and financial management that has resulted in increased efficiency, and, at the same time, in many economies. It has enlarged the powers of the city superintendent, so as to make possible a system of pedagogical control, reaching over the whole city, that is harmonious and effective. By devolving responsibility, in turn, upon district superintendents, better oversight is had and better results obtained. The new plan, also, delegated the legislative initiative to a small body of superintendents, which has the opportunity to seek the advice and aid of all members of the teaching force. At the same time it has brought the schools into closer relations with the people thru the enlarged functions of the district school boards. It has made eligible for the higher places in the system all the teachers in the city, resulting in a better *esprit de corps*, and generally in a greater sense of unity.

It is certainly true that this board has not succeeded perfectly in the matter of school repairs. Under proper management, all repairing should be finished by the time the schools open in the autumn. This is not so easy a task, at best; and it is especially difficult by the processes which the

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city charter prescribes for the doing of public work; but, by patient attention to details, the results achieved ought to improve each year. The present board had, first of all, after its organization, to find out what repairs had to be made; and then it had to learn by experience the stumbling-blocks in the way of prompt action. I have little doubt that another year the results will be much better; but the community must appreciate that at best it is a problem of the utmost difficulty. Some idea of the magnitude of the work is shown by the fact that the building committee of the board has passed upon 498 contracts during the current year. Of these, as many as 164 were for alterations and repairs. The number of sittings added this autumn, and to be added up to the 1st of January, amount to 17,600. Buildings have been placed under contract which ought to supply, during 1903, about 33,000 sittings. During 1904, at least 32,000, or more, sittings can be provided.

The use now being made of school buildings, for other purposes than the regular school work, is interesting. Vacation schools in Manhattan and the Bronx were availed of by 385,496 children; twelve evening play-centers, since January 1, by 560,136; roof playgrounds, in Manhattan and the Bronx, by 305,789. Under the authority of the board of education certain outside playgrounds have been conducted, and the following figures show the use made of them: Forty-one playgrounds in Manhattan and the Bronx were used by 725,058 children; twenty in Brooklyn by 569,134; ten open-air playgrounds and six piers by 418,309. In these figures, of course, the same child is counted every time that he was on the grounds. There are also baths in one school building, that have been largely used. It is clear, therefore, that the school buildings are beginning to play an important part in the life of the children, aside from their educational function.

In the conduct of public schools, as in every other occupation, the whole problem is to secure the right man for the particular piece of work to be done. Whenever a good principal is appointed, you have a good school; when a poor principal is appointed you have a poor school—precisely as a good teacher makes a good class, and a poor teacher a poor class. In a school system as large as that of the city of New York, there is, of course, great inequality in the schools, growing out of the difference in the personal equation. There are some schools in the city as fine as any to be found in the country; there are others that reflect the less fortunate conditions that have attached to them for many years. On the whole, however, it may be confidently said that the school system of New York has greatly improved during the last ten years, and that the tendency to improvement is still strong. A higher standard of equipment for teaching is now demanded than formerly, and with it has come both a strong *esprit de corps*, and a fine ambition. It will always be possible to make improvements; but it may safely be said that the school system, as a whole, is something of which the city may be proud, and that it deserves the affectionate confidence which it so largely commands.